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LONDON SCHOOL OF HYGIENE
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[DIV. OF EPIDEMIOLOGY]
of Blackburn.

County Borough



158475
15 DEC 1911

Annual Report

UPON THE

Health of Blackburn

For the Year 1910,

BY

ALFRED GREENWOOD, M.D., B.Sc., D.P.H., etc.

Medical Officer of Health, Medical Superintendent to the Infectious
Diseases Hospitals, and School Medical Officer.



Blackburn :
The "Times" Printing Works, Northgate.

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of Blackburn.

LOCAL GOV. BOARD

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Corporation of Blackburn.



MEMBERS OF THE HEALTH COMMITTEE.



THE MAYOR (*Alderman F. T. Thomas*).

ALDERMEN :

GARSDEN (*Chairman*). WATSON.

NEWTON. RAMSAY

COUNCILLORS .

BOLTON. FIELDING.

JOHNSON LEIGHTON.

KEIGHLEY. GREEVES (*Vice-Chairman*).

SHORROCK. HIGHAM.

F. W. TAYLOR. RAMSBOTTOM.

SUMNER. WAREING.

MARSDEN. WALMSLEY.

HEATLEY BROWNLEE.

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The Local Government Board Tables, the Classification of all Deaths in the Borough, and Table showing Weight of Children attending the Nursing Mothers' Aid Society, are appended to this Report.

Statistical Summary for 1910.



Area of Borough	7,431½ acres
Population at Census, 1901	127,626
Estimated Population to middle of 1910	136,996
Average Number of Persons per acre	18.4
Birth-Rate per 1,000 living	21.5
Death-Rate ,, 	14.2
Death-Rate from Zymotic Diseases	1.4
Infant Mortality per 1,000 Births	136.0
Total Occupied Houses at 1901 Census	27,756
Plans of New Dwelling-houses Passed	186
Rateable Value	£549,219

PUBLIC HEALTH OFFICE,

BLACKBURN,

January 17th, 1911.

*To the Chairman and Members of the Health Committee of
the County Borough of Blackburn.*

Mr. Chairman and Gentlemen,

I have the honour to submit to you, in accordance with the regulations of the Local Government Board, my ninth Annual Report on the Health and Sanitary Condition of the Borough, for the year ending December 31st, 1910.

The Report contains the Birth and Death Statistics, the measures adopted for the prevention of disease, and the work carried out by this Department.

I thank you for the encouragement and support which you have always given to me.

I am, Mr. Chairman and Gentlemen,

Your obedient servant,

ALFRED GREENWOOD.

REPORT

OF THE

Medical Officer of Health

FOR 1910.

Blackburn is situated chiefly in the valley of the Blackwater, and to a much smaller extent in the valley of the Darwen.

The following are the heights above sea-level in various parts of the town :—

Town Hall	377 feet.
Revidge	715 „
Witton	318 „
Intack	483 „
Infirmery	402 „
Station	360 „
Fever Hospital	560 „

The rivers join on the western boundary of the Borough. On the north side of the Blackwater the land rises after the first few hundred yards rapidly from a height of about 300 feet to a height of 700 feet. To the south and west of the River Darwen there is also a fairly rapid rise from a height of 300 feet to 600 feet. The land between the two rivers has at first no great inclination, but towards the south-east it rises rapidly to a height of 650 feet. On the north side the gradients are as high in one or two instances as 1 in 7, and 1 in 10 or 12 are not uncommon. On the south side the steepest slope is 1 in 10. The fall of the

valley of the Blakewater is 86 feet in $2\frac{1}{4}$ miles or 1 in 138. With few exceptions the falls in the town may be considered good. The deep strata underlying the town are principally the Lower Coal Measures or Gannister Beds. There is a narrow strip of Alluvium in the valley of the Darwen, and Millstone Grit (rock and shale) comes to the surface on the northern side of the borough over a considerable area, and to a very small extent on the southern side. The Gannister Beds underlie nearly the whole of the town proper, and those parts which have Millstone Grit for their deep strata are chiefly agricultural land. With one or two small exceptions the deep strata are covered with drift beds. Throughout the greater part of the Borough the drift beds are principally composed of clay. There is, however, a considerable piece of land in the centre of the town covered with a good depth of pure sand. I cannot map it out correctly, but it includes the land on which the Town Hall, the Market House, the Parish Church, and the Railway Station are built. It extends northwards as far as Regent Street and Richmond Terrace. To the west it extends as a narrow elongated strip as far as Witton Stocks.

This district can be understood better by referring to the Enumeration District Map.* The districts which have sandy subsoil are Nos. 5, 6, 41, 42 in the Southern Division, Nos. 19, 32, 33, 34 in the Northern Division, and No. 2 in the Witton and Livesey Division; and besides these, Nos. 43, 44, 45 in the Southern Division, Nos. 28, 31 in the Northern Division, and Nos. 3, 4, and 6 in the Witton and Livesey Division are partly sand and partly clay. The sand varies considerably in its purity in different localities. In the neighbourhood of Church Street, Mincing Lane, Weir Street, Clayton Street, and King Street, it is of a clean reddish colour, and reaches, in some instances, to a depth of 15 to 20 feet, or possibly more. In the neighbourhood of Galligreaves Street and between Galligreaves Street and Whalley Banks, the sand was originally overlaid with a varying thickness of clay, but this was mostly removed before the land

* This Map has been remodelled in accordance with the 1901 Census results—including the added area—and will be found at the end of the Report.

was built upon. To the south of Bank Top and Redlam the subsoil is composed mostly of a mixture of sand, gravel, and clay, whilst to the north of Bank Top and Redlam, as far as the River Blakewater, the subsoil is much purer sand. Over the remainder of the town the drift beds are mostly clay, or clay and gravel.

Millstone Grit comes to the surface along Revidge Road, and to some extent on both sides of the road, but principally to the south. The deep strata are of interest chiefly from the water which is derived from them. The superficial strata or drift beds which form the subsoil are of great importance. Upon its character the dryness of the locality depends to a great extent, and frequently the dryness of the houses built upon it. It has also a very distinct bearing upon all diseases which are due to soil pollution, and also upon those diseases which are due to damp and cold.

POPULATION.

The population has been calculated upon the assumption that it has grown at the same rate proportionately since the census of 1901. This method of calculation produces the figure 136,996, as being the estimated population to the middle of 1910.

As I have pointed out before, it is very desirable that this figure should be as accurate as possible, because upon it are calculated the various death-rates, etc.

It is now over nine years since the last census, and some inaccuracy of statistics will occur if the population has been estimated erroneously. Any errors, however, will be corrected in the next Annual Report, after the Census has been taken in 1911.

Such errors would be less frequent if a Quinquennial Census could be taken.

TABLE I.

YEAR.	Population at Census.	BIRTHS.	DEATHS.	Natural Increase in 10 year periods, also expressed as percentage of population.	Excess of Immigration over Emigration in 10 year periods, also expressed as a percentage of population.	Total Increase in 10 year periods, also expressed as a percent- age of the population.
1841	36,629		955			
1842			945			
1843			1220			
1844			1143			
1845			1124			
1846			1488			
1847			1445			
1848			1214			
1849			1125			
1850			1315			
1851	46,536	2035	1264			
1852		2000	1697			
1853		2130	1758			
1854		2241	1320			
1855		2181	1781	6859	9731	16590
1856		2324	1330	14.7 %	20.9 %	35.6 %
1857		2372	1824			
1858		2277	1847			
1859		2479	1547			
1860		2675	1487			
1861	63,126	2773	1774			
1862		2754	1815			
1863		2568	1440			
1864		2730	1746			
1865		2737	1881	9211	4002	13213
1866		2775	2146	14.5 %	6.3 %	20.9 %
1867		2915	1867			
1868		3155	1961			
1869		3007	2337			
1870		3082	2318			
1871	76,339	3166	2033			
1872		3463	2050			
1873		3227	2462			
1874		3305	2432			
1875		3412	2200			

TABLE I—Continued.

YEAR.	Population at Census.	BIRTHS.	DEATHS.	Natural Increase in 10 year periods, also expressed as percentage of population.	Excess of Immigration over Emigration in 10 year periods, also expressed as a percentage of population.	Total Increase in 10 year periods, also expressed as a percentage of the population.
1876	104,014	3425	2435	10820	16855	27675*
1877		3518	2134	14'1%	less	less
1878		3456	2742		12056 =	12056 =
1879		3418	2174		4799 or	15619 or
1880		3386	2294		6'2 %	204 %
1881		3919	2431			
1882		3918	2665			
1883		4305	2660			
1884		4132	2663			
1885		4000	2452			
1886	120,064	4004	2863	13186	2864	16050
1887		4164	2974	12'6 %	2'7 %	15'4%
1888		4111	2865			
1889		4150	3077			
1890		4015	2882			
1891		4085	3116			
1892		3883	2551			
1893		3822	2793			
1894		3621	2173			
1895		3899	3084	10853	-3291	7562
1896	127,626	3552	2269	9'04 %	-2'7%	6'3%
1897		3629	2529			
1898		3662	2439			
1899		3643	2607			
1900		3438	2820			
1901		3386	2495			
1902		3357	2247			
1903		3304	2069			
1904		3100	2274			
1905		3193	2183			
1906		3418	2193			
1907		3348	2293			
1908		3415	2157			
1909		3139	2234			
1910		2948	1949			

* The population of the added portions of Witton, Livesey, Lower Darwen and Little Harwood are here deducted.

Between 1871 and 1881 the following additions were made to the Borough. In July, 1877: Livesey (part of) 4449; Witton (part of) 4180; Little Harwood (part of) 33. In July, 1879, Lower Darwen (part of) 2712; Little Harwood (part of) 682.

In November, 1901, parts of Witton and Livesey were added to the Borough.

TABLE II.

Age Periods in Years.	Population estimated to the middle of 1910.	
	M	F
Under 5	6174	5980 ^a
5 — 15	12312	13617
15 — 25	13121	16158
25 — 35	9940	12747
35 — 45	8955	11148
45 — 55	6395	7193
55 — 65	3685	4604
65 — 75	1578	2278
75 and upwards	430	681
Total.....	62590	74406

MARRIAGES.

The number of marriages solemnised within the Borough of Blackburn during 1910 was 1,242, compared with 1,200 during 1909.

Of these, 644 took place in the Established Churches, and 594 in Nonconformist places of worship, and at the Registry Office, and 4 in the Jewish Synagogue.

The annual rate of persons married per 1,000 of the population was 17.4 during 1910.

The Marriage Rates for the five previous years were as follows:—

1905	19.4
1906	19.1
1907	19.4
1908	17.8
1909	17.4

It will, therefore, be seen that the marriage-rate has decreased since 1907.

Perhaps an increased marriage-rate will accompany a more prosperous state of the cotton industry.

BIRTHS.

The number of births registered during the year, in Blackburn, was 2,948, of which 1,534 were males and 1,414 females, equal to a birth-rate of 21.5 per 1,000 living.

This is, by far, the lowest birth-rate which has ever been recorded in Blackburn.

The birth-rate for 1909 was 23.0 per 1,000 living, which was itself the lowest birth-rate recorded in Blackburn up to that time.

The birth-rates per 1,000 living during 1910, for England and Wales, were as follows:—

England and Wales	24.8
77 Great Towns	25.0
136 Smaller Towns	23.7
England and Wales (less the 213 Towns)	25.0

It will, therefore, be seen that the 1910 birth-rate for Blackburn was 3.5 per 1,000 less than the average birth-rate for the 77 great towns of England and Wales.

Also a reference to Table XII. will show that only five of the 33 large towns named in that Table had a lower birth-rate than Blackburn during the year 1910.

ILLEGITIMATE BIRTHS.

Of the 2,948 births, 129 were illegitimate, which is equal to a percentage of 4.3.

This is a somewhat lower percentage than that recorded for the year 1909, but higher than those percentages for several previous years.

Similar percentages for the years 1906, 1907, 1908, and 1909 were 3.9, 3.8, 4.4, and 4.8, respectively.

During the year, inquiries have again been made respecting these illegitimate births.

Of these 129 illegitimate births during 1910, 73 were males and 56 were females.

Twenty-five of such births occurred in the Union Work-house. One hundred and eight cases were investigated, and the following is a summary of the results obtained.

As to the occupation of the parents, the following information was obtained :—

MOTHERS.

Weavers	35	Servants	11
Winders	14	Charwomen	6
Warpers	3	Laundresses	4
Ring Spinners	10	Waitresses	3
Cardroom Hands ...	17	Cooks	2
Creeler	1	Other occupations ...	12
Housekeepers	11		

FATHERS.

Labourers	22	Flaggers and Slaters...	2
Weavers	12	Fitters	2
Carters	8	Boilermakers	2
Travellers	4	Grooms	2
Spinners	4	Soldiers	2
Joiners	3	Plumbers	2
Hawkers	3	Other Occupations ...	38
Strikers	2		

As to the age of the mothers at the time of confinement, it was found that :—

Age of Mother at birth of 1st child	{	20 & under	33	}	108	
		30 "	67			
		over 30	8			
Industrial Work	{	discontinued before	under 1 mth.	18	}	
		confinement	1 mth.	18		
			2 mths.	11		
	{		resumed after	3 mths.		40
		confinement	1 mth.	14		
			2 mths.	19		
Infant nursed	{		3 mths.	16	}	108
		home	89			
		out	19			
Feeding	{	breast entirely	1 mth. & under	15	}	108
			2 " "	17		
			3 " "	9		
		breast partly from birth	6 " "	18		
			1 mth. & under			
			2 " "			
	{	artificial entirely not fed	3 " "	3		
			6 " "	38		
				8		
Mode of feeding	{	Hygienic Bottle	35	}		
		Tube Bottle	11			
		Hy. Bot. & Tube Bot.	10			
		Spoon	9			
Dead	{	before 1st visit	9	}		
		under 2 mths.	5			
		" 3 "	2			
		" 6 "	2			
Infant removed	{	under 2 mths.	9	}		
		" 3 "	3			
		" 6 "	1			
Condition	{	of child	clean	81	}	100*
		of house	fairly clean	16		
			dirty	3		
	of house		clean	63		
		fairly clean	32			
		dirty	5			
General conditions of case	{	satisfactory	45	}	100*	
		fairly sat.	38			
		unsatisfactory	17			
		No comforter used	27			
		Infant slept alone	22			

*In eight cases the infant lived a few days, or hours, only, and there was no opportunity of judging of cleanliness, etc.

Foods used :

Allenbury in 3 instances.
 Prepared Barley in 3 "
 Bread Pobs in 10 "

Condensed Milk in 1 instance.

Benger in 1 „

Moseley in 1 „

Frame Food in 1 „

Malted Food in 1 „

In some cases hygienic and tube bottles were in use at different periods ; in others, they were used for alternate feeds.

In attendance at Birth :

Doctors	35
Midwives	60
Doctor and Midwife	8
Handy-women	4

Condition of Houses :

Clean	85
Fairly clean	18
Dirty	4

TABLE III.—ILLEGITIMATE CHILDREN.

Ward	No. of Births.	Total number of deaths at all ages	Deaths under 1 year of age.
St. Stephen's	9	4	2
Trinity	10	4	2
St. Michael's.....	6	2	2
St. John's	8	2	2
St. Silas'.....	2	...	...
St. Paul's	7	5	2
St. Peter's	6	7	5
St. Mary's	15	3	3
St. Matthew's	5	2	2
St. Thomas' *.....	34	4	3
Park.....	9	...	...
St. Luke's	7	4	4
St. Mark's	4	1	1
St. Andrew's	7	4	3
Borough	129	42	31

* The Workhouse is situate in this Ward.

The percentage of deaths of illegitimate children under one year of age to the total number of illegitimate births registered during the year was 24·0. This is more by 3·5 per cent. than in 1909.

STILLBORN CHILDREN.

The following are the numbers of Stillborn Children brought to the Cemetery and reported to me by the Cemetery Registrar during the year 1910:—

Jan.	Feb.	Mar.	April.	May.	June.
20	12	9	14	9	17
July.	Aug.	Sept.	Oct.	Nov.	Dec.
16	9	20	10	17	18

Total : 171.

These figures include miscarriages, viz., children born before the seventh month of pregnancy. The Stillbirths, as notified to me by midwives, doctors, etc., in connection with the Notification of Births Act, number 131.

Visits were paid by the Lady Inspectors to these houses, and the following particulars were obtained:—

Of these 131 Stillbirths, 75 were males and 56 were females. There were four illegitimate births.

Visits were paid to 121 of the 131 houses from which Stillbirths had been notified, during 1910, and particulars were obtained regarding 118 cases.

In 34 cases a midwife attended at confinement.

.. 50 .. a doctor ,, ,,
 .. 32 .. both a doctor and midwife attended at confinement.
 .. 2 .. no person was in attendance.

As to the duration of pregnancy, it was ascertained that—

64 were in the ninth month of pregnancy.

20 were in the eighth month of pregnancy.

34 were in the seventh month of pregnancy.

Regarding the presentations, there were 64 vertex, 16 breech, 8 feet, and 7 transverse. In 23 cases the presentation could not be ascertained.

As to the cause of these Stillbirths, according to the mother's statements, 10 were due to the mother having fallen, 6 to general debility, 2 to fright, shock, or worry, 1 to overwork, and 35 to abnormal conditions of labour. In 64 cases no cause was given.

As to the occupations of the mothers of these stillborn children, it was found that 50 were employed in the cotton industry, 51 were engaged in house duties, and 17 were employed in miscellaneous occupations.

Regarding the condition of the homes at which stillbirths occurred, 96 were clean, 20 were fair, and 2 were dirty.

With regard to the length of time during which the mothers of these stillborn children stayed away from work before confinement, it was found that—

5	were at work the same day.			
3	stayed away from work one day previous to confinement.			
1	„ „	three days	„	„
3	„ „	seven days	„	„
3	„ „	two weeks	„	„
8	„ „	four weeks	„	„
18	„ „	two months	„	„
11	„ „	3 months	„	„
15	„ „	longer than three months previous to confinement.		

TABLE IV.
STILLBIRTHS NOTIFIED.

Ward.	1908	1909	1910
St. Stephen's	18	21	6
Trinity	15	17	15
St. Michael's	11	12	9
St. John's	15	6	13
St. Silas'.....	12	7	4
St. Paul's	15	11	10
St. Peter's	16	10	5
St. Mary's	9	10	7
St. Matthew's.....	22	21	5
St. Thomas's	31*	17†	14‡
Park	11	19	11
St. Luke's	13	12	7
St. Mark's	11	15	8
St. Andrew's ...	11	20	17
Total	210	193	131

* 5 born in Union Infirmary.

† 2 born in Union Infirmary.

‡ 5 born in Union Infirmary

DEATHS.

In the following Tables (V. to XIV.) will be found classifications of the Deaths in Blackburn during 1910, according to age, disease, locality, period, and also comparisons with other towns.

During the year 1910 there were 1,949 deaths, of which 962 were males and 987 females.

Adjustment has been made for those persons who belonged to outside districts, and who died in Blackburn, and for Blackburn residents who died in outside districts.

The total of non-residents who died in institutions in this Borough was 159, compared with 127 such deaths during 1909.

These came from the following districts, viz.:—Darwen, 60; Great Harwood, 20; Oswaldtwistle, 12; Church, 10; Clayton-le-Moors, 6; Haslingden, 6; Accrington, 5; Clitheroe, 5; Blackburn County Area, 4; Withnell, 2; Billington and Langho, 2; Rishton, 2; Burnley, 2; Manchester, 2; Blackpool, 2; Whalley, 2; Padiham, Mellor, Chorley, Wigan, Derby, Farnworth, Tockholes, Oldham, Middlesborough, Balderstone, Yate and Pickup Bank, Hoghton, Slaidburn, Bowdon, Dutton, Preston, and Colne, one each.

The number of Deaths amongst Blackburn residents occurring in districts outside was 33, compared with 28 during 1909.

These deaths occurred at Private Nursing Homes, Manchester; Culcheth Hall, Manchester; Infirmary, Burnley; private residence, Darwen; private residences, Blackpool; private residence, Clitheroe; Lancaster Asylum, Whittingham Asylum, Prestwich Asylum, Winwick Asylum, and Smallpox Hospital, Finnington.

Notifications of deaths in Blackburn occurring amongst residents of other districts are sent weekly to the Medical Officers of Health of those districts, in order to facilitate accuracy of death statistics.

The resulting death-rate is equal to 14.2 per 1,000. This is the lowest death-rate ever recorded for Blackburn, and it represents a very satisfactory state of affairs. The previous lowest record in the annual death-rate for Blackburn was in the year 1903, when it was 15.7 per 1,000 of the population.

Moreover, this 1910 death-rate is 3.1 per 1,000 lower than the average death-rate of Blackburn for the ten years 1900 to 1909, which represents a considerable saving of lives.

The following are the corrected Death-rates per 1,000 living for England and Wales during 1910 :—

England and Wales	13.4
77 Great Towns	13.4
136 Smaller Towns	12.4
England and Wales (less the 213 Towns)	13.6

The decrease in the number of deaths for 1910, as compared with 1909, was in the following diseases :—Scarlet Fever, Whooping Cough, Enteric Fever, Influenza, Phthisis, Tubercular Meningitis, Old Age, Inflammation of the Brain or Membranes, Apoplexy, Other Nervous Diseases, Diseases of Heart and Bloodvessels, Bronchitis, and Pneumonia.

The decrease was especially marked in Phthisis, Bronchitis, and Pneumonia.

The increase in the number of deaths for 1910, as compared with 1909, was in the following diseases :—Diphtheria and Membranous Croup, Diarrhœa and Enteritis, Atrophy, Convulsions, and Cancer.

The increase was especially marked in Diarrhœa and Cancer.

The largest numbers of Deaths at all ages during 1910 were from Bronchitis, Diseases of the Heart and Blood-vessels, Pneumonia, Old Age, Cancer, and Phthisis, which claimed 202, 160, 147, 131, 127, and 110 victims respectively.

On referring to Table XI., it will be seen that during 1910 the lowest death-rate occurred in St. Silas's and St. Thomas's Wards, with rates of 7.1 and 11.7 per 1,000 respectively.

The highest Ward death-rate occurred in St. Mary's Ward, namely, 20.9 per 1,000.

Again, as in previous years, Table XI. also shows the striking difference in the death-rates from Phthisis in the various Wards.

The Wards with a Phthisis death-rate above 1 per 1,000 were St. Mary's, St. Peter's, and St. John's Wards.

The remaining eleven Wards had a Phthisis death-rate under 1 per 1,000.

This is a marked improvement on previous years, and I believe that this satisfactory state of affairs has never happened before, in Blackburn.

There is still, however, ample room for further improvement in this respect.

Table VI. shows that the lowest death-rates occurred between the ages of 5 and 15, and 15 and 25 years, and that the death-rates were greatest at the extremes of life.

From Table VII., it will be seen that the highest monthly death-rates occurred during November and December, and that these increases were due mainly to Lung Diseases.

The lowest weekly death-rate occurred in the week ending September 3rd, namely, 8.3 per 1,000. Weekly death-rates below 10 per 1,000 were recorded for the weeks ending July 2nd, August 13th, and October 8th.

TABLE V.

Year.	Popu- lation in Census Years.	Popula- tion esti- mated to middle of year.	Birth Rate.	Death Rate.	Average Death rate in 10 year periods.	Year.	Popula- tion in Census Years.	Popula- tion esti- mated to middle of year.	Birth Rate.	Death Rate.	Average death rate in 10 year periods.
1841	36,629	36,849		29.9	29.02	1876	76,333	84,716	40.4	28.7	26.5
1842	...	37,742		25.0		*1877	...	90,089	39.0	23.6	
1843	...	38,656		31.5		1878	...	96,031	35.9	28.5	
1844	...	39,593		28.8		†1879	...	98,869	35.5	21.9	
1845	...	40,552		27.7		1880	...	102,736	32.9	22.2	
1846	...	41,534		35.7		1881	104,014	104,388	37.5	22.4	
1847	...	42,541		33.9		1882	...	105,897	36.9	24.3	
1848	...	43,571		27.8		1883	...	107,427	40.0	23.9	
1849	...	44,627		25.2		1884	...	108,980	37.9	23.6	
1850	...	45,708		28.7		1885	...	110,555	36.1	21.3	
1851	46,536	46,892	43.3	27.0	29.47	1886	...	112,153	35.6	24.7	23.83
1852	...	48,344	41.3	35.1		1887	...	113,774	36.5	25.3	
1853	...	49,841	42.7	35.2		1888	...	115,418	35.6	24.0	
1854	...	51,384	43.6	25.6		1889	...	117,086	35.5	25.4	
1855	...	52,974	41.7	33.6		1890	...	118,780	33.8	23.4	
1856	...	54,614	42.5	24.3		1891	120,064	120,245	33.9	25.9	
1857	...	56,306	42.1	32.2		1892	...	120,972	32.0	21.0	
1858	...	58,049	39.2	31.8		1893	...	121,704	31.4	22.9	
1859	...	59,846	41.4	25.8		1894	...	122,440	29.5	17.7	
1860	...	61,699	43.3	24.1		1895	...	123,181	31.6	25.0	
1861	63,126	63,434	43.7	27.9	27.83	1896	...	123,926	28.6	18.3	21.32
1862	...	64,681	42.5	28.1		1897	...	124,675	29.1	20.2	
1863	...	65,953	38.9	21.8		1898	...	125,430	29.1	19.4	
1864	...	67,249	40.5	25.9		1899	...	126,185	28.8	20.6	
1865	...	68,572	39.9	27.4		1900	...	126,951	27.0	22.2	
1866	...	69,920	39.6	30.7		1901	127,626	127,823	26.5	19.5	
1867	...	71,294	40.8	27.5		1902	...	130,239	25.7	17.2	
1868	...	72,696	43.3	26.9		1903	...	131,079	25.2	15.7	
1869	...	74,125	40.5	31.5		1904	...	131,908	23.5	17.2	
1870	...	75,583	40.7	30.6		1905	...	132,742	24.0	16.4	
1871	76,339	76,695	41.1	26.5	26.5	1906	..	133,583	25.5	16.4	
1872	...	78,136	44.3	26.2		1907	..	134,438	24.9	17.0	
1873	...	79,604	40.5	30.9		1908	..	135,278	25.2	15.9	
1874	...	81,099	40.7	29.9		1909	...	136,135	23.0	16.4	
1875	..	82,624	41.2	26.6		1910	...	136,996	21.5	14.2	

* Part of Witton, Livesey, and Little Harwood—population 8,662.
Half of this has been added to 1877 population.

† Part of Little Harwood and Lower Darwen—population 2,394.
Half of this has been added to year 1879 population.

‡ Part of Witton and Livesey added in November, 1901.

TABLE VI.

1910.

AGE PERIODS.	MALES.		FEMALES.	
	Deaths.	Death Rate	Deaths.	Death Rate.
0-5	322	52·1	272	45·4
5-15	37	3·0	51	3·7
15-25	44	3·3	43	2·6
25-35	44	4·4	63	4·9
35-45	65	7·2	77	6·9
45-55	106	16·5	109	15·1
55-65	131	35·5	125	27·1
65-75	145	91·8	181	79·4
75 and upwards.	68	158·1	66	96·9

TABLE VII.

Monthly Births and Deaths for 1910.

Month.	Birth Rate.	Death Rate	Measles.	Scarlet Fever	Whooping Cough.	Croup.	Typhoid Fever.	Diphtheria	Diarrhoea.	Lung Diseases.	Tuberculosis.	All Other Diseases.
January.....	19·7	14·6	...	2	...	...	1	1	2	31	17	116
February ...	25·0	15·4	...	3	..	...	...	1	2	32	9	115
March	21·2	14·9	2	5	1	1	...	1	3	37	12	113
April	20·7	15·0	5	1	...	3	...	...	1	36	12	112
May	22·6	13·5	11	2	1	1	...	1	3	25	15	98
June	24·7	11·6	8	4	...	...	...	1	2	21	10	86
July	20·7	11·0	2	1	2	...	...	1	5	19	10	92
August	19·9	13·5	2	1	1	...	...	4	12	20	17	103
September	22·0	12·5	1	3	5	...	...	1	15	26	9	79
October.....	22·8	13·1	2	1	2	...	2	3	28	28	18	69
November..	20·2	15·4	2	2	3	3	2	2	4	35	12	115
December..	18·5	16·6	4	2	...	2	4	6	2	54	25	118

TABLE VIII.—(SHORTER SCHEDULE B)

CAUSE OF DEATH.	0—1		1—5		5—15		15—25		25—65		65 & up		M.	F.	To- TAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Smallpox									1				1		1
Measles	3	6	18	10		2							21	18	39
Scarlet Fever		1	8	10	3	5							11	16	27
Typhus Fever															
Epidemic Influenza		1	1	1	1	1	1	2	8	8	2	2	13	15	28
Whooping Cough	3	3	3	6									6	9	15
Diphtheria & Membranous Croup			5	7	4	5			1				9	13	22
Croup	1		4	4		1							5	5	10
Enteric Fever					1	1	2	1	2	2			5	4	9
Other continued Fevers ..															
Cholera															
Diarrhoea	9	4	2	2							3		14	6	20
Plague															
Epidemic or Zymotic Enteritis	20	25	3	9							1	1	24	35	59
Enteritis	2								2	1			4	1	5
Erysipelas ..	1								1	1			2	1	3
Puerperal Fever								1		7				8	8
Other Septic Diseases		1									1		1	1	2
Intermittent and Malarial Cachexia															
Tuberculosis of Meninges...	2	1	1	2	2	5		1		1			5	10	15
Phthisis			3	1	2	2	13	11	45	33			63	47	110
Other Tuberculous Diseases	8	8	2	4	1	4		3	4	7			15	26	41
Malignant Disease (Cancer)							1		20	67	12	27	33	94	127
Premature Birth	40	23											40	23	63
Developmental Diseases ..	11	7	1				1						13	7	20
Old Age									2	3	53	73	55	76	131
Meningitis	6	4	4	1	1	3	2	2	3		1		17	10	27
Inflammation and Softening of Brain							1		3	5	2	2	6	7	13
Organic Diseases of Heart.	1			1	2	5	4	5	40	51	23	28	70	90	160
Venereal Diseases	1	1											1	2	3
Bronchitis	25	17	7	8				2	34	32	39	38	105	97	202
Pneumonia	28	12	14	9	4	1	2	3	34	20	13	7	95	52	147
Pleurisy	1		1	1	1		1	1	2		2		6	6	12
Other Respiratory Diseases									1	2			1	2	3
Diseases of Stomach	3	1		1					2	6	4	2	9	10	19
Obstruction of Intestines ..	1								2	1	2	1	5	2	7
Cirrhosis of Liver (Alcoholism)									5	5	1	2	6	7	13
Nephritis & Brights Disease		1	2	2	2	2	2	2	21	17	6	8	33	32	65
Tumour and other Affections of female genital organs										8				8	8
Accidents and Diseases of Parturition								2		11				13	13
Deaths by Suicide									9	5	2	1	11	6	17
Homicide															
Deaths from Ill-defined Causes	10	9	2	2	2	1	5	3	28	14	12	13	59	42	101
Deaths by Accidents or Negligence	2	1	1	6	2	4	1		11	5	3	2	20	18	38
All other Causes	51	46	11	13	9	9	8	4	66	58	33	38	178	168	346
TOTAL	229	172	93	100	37	51	44	43	346	374	213	247	962	987	1949

TABLE IX.

DISEASE.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	Death Rate.
	Total De'ths	Total De'ths	Total De'ths	Total De'ths	Total De'ths	Total De'ths	Total De'ths	
Smallpox .....	...	...	...	...	...	...	1	0'007
Measles	60	42	63	45	15	41	39	0'28
Scarlet Fever	13	76	33	21	20	53	27	0'19
Whooping Cough	96	11	17	41	27	22	15	0'10
Diphtheria	11	33	26	17	12	18	22	0'16
Croup .....	...	...	5	4	7	1	10	0'07
Enteric Fever	21	15	14	13	14	18	9	0'06
Influenza	17	20	22	44	34	46	28	0'20
General Tuberculosis	10	17	14	8	15	9	12	0'08
Phthisis.....	125	142	124	133	148	136	110	0'80
Abdominal Tuberculosis...	40	27	34	36	28	23	22	0'16
Tubercular Meningitis and Acute Hydrocephalus...	28	33	24	36	16	22	15	0'10
Other forms of Tuberculosis	8	7	6	9	10	9	7	0'05
Diarrhoea ..	125	93	171	56	152	60	79	0'57
Enteritis	3	...	...	4	...	2	5	0'03
Atrophy, Debility, Marasmus.....	67	56	61	51	68	43	52	0'37
Rheumatism, R'matic Fev'r	19	17	13	17	6	17	13	0'09
Cancer	107	113	108	113	108	107	127	0'92
Premature Birth	80	67	72	77	66	61	63	0'46
Old age.....	153	139	143	161	141	169	131	0'95
Convulsions	32	34	40	28	31	24	30	0'21
Inflammation of the Brain or Membranes	5	13	18	9	27	40	27	0'19
Apoplexy	80	83	102	117	110	90	75	0'54
Other Nervous Diseases	74	73	69	65	76	78	69	0'50
Diseases of Heart and Blood Vessels.....	194	155	186	198	173	187	160	1'16
Bronchitis	240	214	178	266	224	262	202	1'47
Pneumonia	249	190	180	228	178	227	147	1'07
Cirrhosis of Liver	13	14	22	18	18	11	7	0'05
Acute Nephritis, Bright's Disease.....	60	64	49	66	51	68	65	0'47
Burns and Scalds.....	10	12	11	19	8	16	12	0'08
*Causes unspecified	50	113	85	85	70	68	101	0'73
All Diseases .....	...	...	...	...	...	...	1949	14'22

* Including all cases not certified by a medical man, and all cases where an inquest was held but no definite cause of death shown.

TABLE X.

Weekly Births and Deaths for 1910.

1910.	Deaths from all causes.	Death Rate per 1,000 per annum.	Deaths from Seven Principal Zymotics.	Death Rate per 1,000 for Zymotics.	Births.	Birth Rate per 1,000 per annum.
Week ending Jan. 8	43	16.4	2	0.7	68	25.9
" " 15	37	14.0	0	0.0	64	24.2
" " 22	33	12.5	1	0.3	40	15.2
" " 29	39	14.8	1	0.3	41	15.5
" Feb. 5	50	21.2	1	0.3	63	23.8
" " 12	41	15.5	0	0.0	61	23.1
" " 19	37	14.0	2	0.7	63	23.8
" " 26	37	14.0	1	0.3	73	27.7
" March 5	38	14.4	2	0.7	55	20.8
" " 12	44	16.7	1	0.3	70	26.5
" " 19	35	13.2	1	0.3	50	18.9
" " 26	48	18.2	4	1.5	48	18.2
" April 2	32	12.1	3	1.1	56	21.2
" " 9	46	17.4	0	0.0	60	22.7
" " 16	49	18.6	1	0.3	58	22.0
" " 23	36	13.6	0	0.0	48	18.2
" " 30	31	11.7	2	0.7	55	20.8
" May 7	32	12.1	2	0.7	57	21.6
" " 14	35	13.2	3	1.1	61	23.1
" " 21	41	15.5	1	0.3	41	15.5
" " 28	38	14.4	7	2.6	83	31.5
" June 4	27	10.2	5	1.8	63	23.8
" " 11	36	13.6	7	2.6	64	24.2
" " 18	23	8.7	1	0.3	64	24.2
" " 25	33	12.5	2	0.7	74	28.0
" July 2	26	9.8	1	0.3	47	17.8
" " 9	31	11.7	2	0.7	62	23.5
" " 16	36	13.6	1	0.3	53	20.1
" " 23	30	11.3	1	0.3	54	20.4
" " 30	30	11.3	1	0.3	62	23.5
" August 6	27	10.2	1	0.3	63	23.9
" " 13	25	9.4	2	0.7	39	14.8
" " 20	44	16.7	2	0.7	60	22.7
" " 27	44	16.7	1	0.3	44	16.7
" Sept. 3	22	8.3	0	0.0	40	15.1
" " 10	33	12.5	5	1.8	76	28.9
" " 17	39	14.8	1	0.3	51	19.3
" " 24	34	12.9	4	1.5	55	20.8
" Oct. 1	31	11.7	1	0.3	63	23.9
" " 8	26	9.8	1	0.3	54	20.4
" " 15	39	14.8	3	1.1	56	21.2
" " 22	36	13.6	2	0.7	54	20.4
" " 29	39	14.8	2	0.7	61	23.1
" Nov. 5	34	12.9	5	1.8	53	20.1
" " 12	35	13.2	1	0.3	55	20.8
" " 19	51	19.3	2	0.7	56	21.2
" " 26	44	16.7	3	1.1	59	22.3
" Dec. 3	39	14.8	5	1.8	46	17.4
" " 10	31	11.7	1	0.3	54	20.4
" " 17	53	20.1	1	0.3	49	18.6
" " 24	50	18.9	3	1.1	61	23.1
" " 31	41	15.5	4	1.5	40	15.1

TABLE XI.

WARDS.	Popu- lation.	Deaths.	Births.	Death Rate.	Birth Rate.	Deaths under one year per 1000 Births.	Death- rate from six Zymotic Diseases.	Death- rate from Diar- rhœa.	Death- rate from Bron- chitis and Pneu- monia.	Death- rate from Phthi- sis.
ST. STEPHEN'S...	10047	145	265	14'4	26'3	101'8	1'0	0'5	2'8	0'3
TRINITY	10400	179	235	17'2	22'6	191'4	0'8	0'8	3'4	0'9
ST. MICHAEL'S.	9776	109	197	11'1	20'1	101'5	0'9	0'1	1'9	0'6
ST. JOHN'S	7952	96	173	12'0	21'7	115'6	0'1	0'5	1'8	1'0
ST. SILAS'	11125	79	135	7'1	12'1	37'0	0'5	0'0	0'7	0'5
ST. PAUL'S	10146	168	222	16'5	21'8	135'1	0'9	0'4	3'0	0'6
ST. PETER'S.....	7360	132	158	17'9	21'4	177'2	0'8	1'7	2'5	1'7
ST. MARY'S	6777	142	146	20'9	21'5	226'0	1'1	0'4	4'4	1'7
ST. MATTHEW'S	9867	172	234	17'4	23'7	141'0	1'9	0'6	2'5	0'9
ST. THOMAS' ...	14133	166	278	11'7	19'6	129'4	0'4	0'6	2'7	0'5
PARK	9529	144	240	15'1	25'1	133'3	0'2	0'4	2'7	0'7
ST. LUKE'S	8817	151	208	17'1	23'5	173'0	0'5	0'5	2'8	0'6
ST. MARK'S	9674	124	208	12'8	21'5	100'9	0'9	0'4	2'3	0'8
ST. ANDREW'S..	11393	142	249	12'4	21'8	140'5	0'9	0'8	2'1	0'5
BOROUGH	136996	1949	2948	14'2	21'5	136'0	0'8	0'5	2'5	0'8

TABLE XII.

TOWNS.	Birth Rate.	Death Rate.	Deaths under 1 year per 1000 births	Death rate over one year.	Death rate from the seven Zymotic diseases	Death rate from Diarrhoea.	Death rate from Violence.	Inquest Cases percentage to total Deaths.	Uncertified cause of Death percentage to total Deaths.
London ...	23·9	12·7	102	10·2	1·14	0·28	0·49	10·2	0·1
West Ham	26·4	11·7	101	9·0	1·19	0·38	0·49	9·8	0·1
Croydon ...	23·2	11·0	88	8·9	0·61	0·13	0·45	10·6	0·0
Brighton...	19·9	14·2	111	12·0	1·26	0·39	0·38	8·9	0·1
Portsmouth	26·6	13·8	104	10·9	1·36	0·25	0·45	7·8	0·7
Plymouth...	20·2	13·5	114	11·1	1·17	0·33	0·43	9·2	0·0
Bristol	21·7	11·5	91	9·5	0·59	0·19	0·35	8·7	0·1
Cardiff.....	24·3	11·9	112	9·1	0·94	0·36	0·53	10·2	0·5
Swansea ...	32·6	17·6	124	13·5	1·18	0·32	0·73	8·5	0·0
W'h'mpton	22·5	12·5	107	10·1	0·71	0·18	0·56	9·4	0·4
B'rmingh'm	26·2	13·7	130	10·2	1·12	0·38	0·58	5·5	3·0
Norwich ...	23·0	12·5	103	10·0	0·68	0·22	0·28	6·1	1·3
Leicester ...	21·4	11·3	127	8·5	0·68	0·29	0·39	6·8	1·0
Nottingh'm	24·8	14·2	129	10·9	1·02	0·35	0·46	6·6	0·5
Derby	24·2	11·1	85	8·9	0·56	0·10	0·56	13·4	0·0
Birkenhead	30·4	16·2	135	12·0	1·78	0·69	0·35	6·1	0·6
Liverpool...	30·1	17·7	139	13·5	2·29	0·71	0·64	6·4	2·1
Bolton	22·9	13·4	117	10·7	1·09	0·37	0·41	6·9	0·6
Manchester	27·1	16·0	132	12·4	1·79	0·49	0·66	7·1	0·7
Salford ...	26·7	15·1	130	11·6	1·70	0·52	0·47	6·8	0·3
Oldham ...	25·8	17·2	128	13·9	1·81	0·51	0·39	5·6	0·1
Burnley ...	24·9	16·3	170	12·0	2·46	1·13	0·57	6·4	1·1
Blackburn	21·5	14·2	136	11·3	1·40	0·57	0·40	7·5	2·0
Preston ...	23·4	16·2	158	12·5	1·71	0·99	0·39	3·7	3·0
Hudd'sfield	22·9	16·6	99	14·3	1·12	0·31	0·52	6·0	0·7
Halifax ...	16·5	12·8	91	11·3	0·72	0·14	0·49	7·4	1·3
Bradford...	18·6	14·0	127	11·6	1·24	0·33	0·43	8·4	0·3
Leeds	22·2	13·7	132	10·7	1·27	0·38	0·49	9·3	0·1
Sheffield ...	26·5	13·4	127	10·0	1·49	0·67	0·40	6·0	1·2
Hull	28·6	15·2	135	11·3	1·75	0·93	0·66	9·1	1·1
Sunderland	28·5	15·9	129	12·1	1·43	0·50	0·69	6·9	1·9
Gateshead.	27·2	12·9	152	8·8	1·36	0·52	0·37	4·0	5·5
Newcastle.	26·4	13·9	121	10·6	1·15	0·36	0·41	8·4	0·2

TABLE XIII.

Death-rates from Zymotic Diseases in the 33 large towns.

	Small Pox.	Measles	Scarlet Fever.	Diph- theria	W'ping Cough.	Enteric Fever.	Diarrhoea
London	0'00	0'41	0'04	0'09	0'28	0'04	0'28
West Ham	0'00	0'29	0'06	0'15	0'25	0'05	0'38
Croydon ...	0'00	0'20	0'04	0'11	0'12	0'00	0'13
Brighton ...	0'00	0'60	0'04	0'01	0'14	0'07	0'39
Portsmouth	0'00	0'29	0'14	0'26	0'24	0'18	0'25
Plymouth ...	0'00	0'37	0'01	0'09	0'30	0'06	0'33
Bristol	0'00	0'08	0'03	0'09	0'17	0'02	0'19
Cardiff	0'005	0'23	0'09	0'12	0'10	0'03	0'36
Swansea ...	0'00	0'39	0'03	0'16	0'25	0'02	0'32
Wolverh'ton	0'00	0'17	0'05	0'04	0'26	0'01	0'18
Birmingham	0'00	0'06	0'14	0'11	0'37	0'04	0'38
Norwich ...	0'00	0'06	0'09	0'13	0'15	0'03	0'22
Leicester ...	0'00	0'05	0'05	0'04	0'21	0'04	0'29
Nottingham	0'005	0'20	0'06	0'11	0'24	0'05	0'35
Derby	0'00	0'10	0'03	0'17	0'10	0'05	0'10
Birkenhead	0'00	0'27	0'04	0'19	0'52	0'06	0'69
Liverpool ...	0'00	0'60	0'22	0'13	0'58	0'04	0'71
Bolton	0'00	0'01	0'19	0'15	0'29	0'06	0'37
Manchester	0'00	0'40	0'11	0'14	0'56	0'08	0'49
Salford	0'00	0'34	0'12	0'21	0'41	0'10	0'52
Oldham	0'00	0'58	0'04	0'06	0'54	0'07	0'51
Burnley	0'00	0'55	0'20	0'16	0'36	0'06	1'13
Blackburn	0'007	0'28	0'19	0'16	0'10	0'06	0'57
Preston	0'00	0'27	0'07	0'17	0'07	0'17	0'99
Huddersfield	0'00	0'10	0'19	0'16	0'29	0'05	0'31
Halifax	0'00	0'12	0'03	0'21	0'12	0'08	0'14
Bradford ...	0'00	0'49	0'05	0'13	0'15	0'10	0'33
Leeds	0'00	0'32	0'08	0'13	0'30	0'04	0'38
Sheffield ...	0'002	0'25	0'07	0'07	0'39	0'03	0'67
Hull	0'002	0'26	0'06	0'17	0'23	0'10	0'93
Sunderland	0'00	0'37	0'08	0'13	0'28	0'06	0'50
Gateshead...	0'00	0'18	0'04	0'08	0'52	0'01	0'52
Newcastle ..	0'002	0'29	0'04	0'14	0'28	0'03	0'36

TABLE XIV.

Showing Population, Birth-rates, and Death-rates, for the last 20 years in Blackburn.

Year.	Estimated Population.	Birth Rate.	Death Rate.	Zymotic Death rate including Diarrhoea.	Death rate from Bronchitis Pneumonia & Pleurisy.	Death rate from Phthisis.	Death rate from other Tubercular Diseases	Deaths under 1 year per 1000 Births.
1891	120,245	33·9	25·9	4·3	7·6	1·3	0·7	207
1892	120,972	32·0	21·0	2·8	5·1	1·0	0·9	199
1893	121,704	31·4	22·9	4·8	5·3	1·1	1·1	241
1894	122,440	29·5	17·7	2·9	3·9	1·2	0·7	168
1895	123,181	31·6	25·0	6·1	4·7	1·2	1·1	235
1896	123,926	28·6	18·3	1·9	3·8	1·1	0·5	172
1897	124,675	29·1	20·2	3·2	4·0	1·1	0·7	207
1898	125,430	29·1	19·4	2·6	3·6	1·2	0·5	204
1899	126,185	28·8	20·6	2·7	4·4	1·2	0·5	193
1900	126,951	27·0	22·2	3·9	4·8	1·1	0·7	221
1901	127,719	26·5	19·5	3·0	3·7	1·1	0·7	193
1902	130,239	25·7	17·2	1·9	3·5	1·2	0·7	157
1903	131,079	25·2	15·7	1·7	3·3	0·9	0·6	158
1904	131,908	23·5	17·2	2·4	3·7	0·9	0·6	191
1905	132,742	24·0	16·4	2·0	3·0	1·0	0·6	146
1906	133,583	25·5	16·4	2·4	2·7	0·9	0·5	155
1907	134,438	24·9	17·0	1·4	3·7	0·9	0·6	151
1908	135,278	25·2	15·9	1·7	2·9	1·0	0·5	149
1909	136,135	23·0	16·4	1·5	3·6	0·9	0·4	127
1910	136,996	21·5	14·2	1·4	2·6	0·8	0·4	136

TABLE XV.

INQUEST CASES.

Natural Causes	71
Accidents	29
Suicide	17
Burns	8
Accidentally Drowned	7
Excessive Drinking	5
Scalds—2 years, 9 years, 10 years ...	3
Suffocation (including Overlaying)... ..	3
Accidentally Poisoned	2
Want of attention at Birth	1
Improper Feeding	1
Septic Poisoning	1

Ages of persons burnt :—7 weeks, $2\frac{1}{3}$ years, $2\frac{5}{8}$ years, 4 years, two at 5 years, 11 years, and 58 years.

Ages of persons suffocated :—6 weeks, 8 weeks, and 48 years.

There were 148 Inquests held during the year, as compared with 143 during 1909.

INFANTILE MORTALITY.

During 1910, the death-rate amongst children under one year of age, per 1,000 births, was 136, compared with 127.4 during 1909.

Although this rate for 1910 is slightly higher than the rate for 1909, it is still very satisfactory, and the increase can be accounted for mainly by the fact that more deaths occurred from Infantile Diarrhoea during 1910, than during 1909.

Again, it is probable that climatic conditions assisted in producing this low rate during 1910; but I still believe that the adoption of the Notification of Births Act, and the valuable work carried out by the Lady Inspectors, have been important factors in the reduction. During 1910 two additional Lady Inspectors were appointed, so that there are now four of these ladies in the Health Department.

It should not be forgotten that the birth-rate for 1910 was extremely low.

The average Infantile Mortality for the ten years, 1900 to 1909, was 165.3, so that Blackburn has shown a marked improvement in this respect.

As I have stated before, there is still room for a further diminution, and no efforts should be spared to this end.

In fact, the figure of 100 deaths per 1,000 births has been mentioned as one which it is desirable to reach.

The Infantile Death-rates, or deaths under one year per 1,000 births, for England and Wales, during 1910, were as follows:—

England and Wales	106
77 Great Towns	115
136 Small Towns	104
England and Wales (less the 213 Towns) ...	96

These figures indicate a reduction, when compared with a similar set of figures for the year 1909.

The Infantile Mortality rate for Blackburn was, therefore, 21 greater than that recorded for the 77 great towns during the year 1910.

In Tables XII. and XXII., a comparison between Blackburn and many of these towns may be made.

During 1910, 401 deaths occurred below the age of one year. out of the total number of deaths, namely 1,949, i.e., 21 per cent.

Unlike the majority of previous years, and like the year 1909. the greatest number of these deaths under one year of age, during 1910. occurred from Lung Diseases.

In former years, Diarrhœa has been the most frequent cause of death in the first year of life.

During 1910, the next most frequent causes of death after Lung Diseases were Premature Birth and Diarrhœa.

On referring to Table XVI., it will be seen that all the Wards. except St. Silas's Ward, had infantile death-rates during 1910. greater than 100; but, as usual, the birth-rate in this Ward was very much lower than in the other Wards.

However, St. Stephen's, St. Michael's, and St. Mark's Wards had infantile death-rates, during 1910, which only just exceeded 100. and this is a condition which has never occurred before.

St. Mary's Ward had the highest infantile death-rate during 1910. namely. the enormous figure of 226.

In Table XVIII.. I have arranged, as in previous years, the deaths under one year for 1910, according to days, weeks, and months, and the following conclusions may be drawn from this analysis :—

(a) The number of deaths on the *first day* of life was greater than on any succeeding day, and was greater by 21 than the combined total number of deaths on the second, third, fourth, fifth, sixth, and seventh days of life.

(b) The number of deaths during the *first week* of life was greater by 50 than the combined total number of deaths during the second, third, and fourth weeks of life.

(c) The number of deaths during the *first month* of life was more than three times as great as the number in any succeeding month during the first year of life.

PARTICULARS RESPECTING THE 401 DEATHS OF CHILDREN BELOW ONE YEAR OF AGE.

Full inquiries have again been made by the Lady Inspectors respecting the above, during 1910, on the same lines as were set forth in my Annual Report for 1908, and for the same reasons.

Of these 401 infants who died, 230 were males and 171 were females. Thirty-one were illegitimate; 379 were visited and particulars obtained; 14 were not visited; and eight were visited but no particulars were obtained.

As to the occupations of the mothers, it was ascertained that 146 were employed in the cotton industry, 209 in house-work, and 24 in other occupations, thus:—

103	were employed as weavers.		
14	„	„	cardroom-hands.
13	„	„	winders.
12	„	„	ring-spinners.
4	„	„	warpers.

Twelve of these deaths were uncertified, and nine inquests were held.

104 of these 401 children were born prematurely.

Inquiries were also made as to the day on which a doctor was first called in to see the child before death, and the following statement shows the result :—

The same day in 12 cases.

1	day	before death	in	15	cases.
2	days	before death	in	16	„
3	„	„		13	„
4	„	„		14	„
5	„	„		12	„
6	„	„		3	„
7	„	„		39	„
2	weeks	„	„	42	„
3	„	„		32	„
4	„	„		15	„
5	„	„		7	„
6	„	„		9	„
7	„	„		2	„
2	months	„		8	„
3	„	„		5	„
Over three months				9	„

The doctor had been in attendance from birth in 104 cases.

Respecting the method of feeding, it was found that 78 were breast-fed, 212 were fed artificially, and in 29 cases these two methods of feeding had been combined.

Respecting the food for the above-mentioned 212 artificially-fed children, it was found that—

161 had been fed on cow's milk.

17	„	„	milk and barley-water.
8	„	„	milk and bread.
5	„	„	milk and Neave's Food.
6	„	„	Neave's Food.
14	„	„	other patent foods.

In addition to these, one child was fed on milk and biscuits. This child died; an inquest was held, and a verdict was returned that death was due to improper feeding.

Of these 212 children, 142 were fed with a hygienic bottle, 35 with a long-tubed bottle, and 35 with a spoon.

Of the 29 children who were partly breast-fed and partly artificially-fed, it was found that—

18 were fed on breast and cow's milk.

6 ,, ,, bread and cow's milk.

5 ,, ,, patent foods.

Of these 29 children, 14 were fed with a hygienic bottle, 6 with a long-tubed bottle, and 9 with a spoon.

39 of these 401 children were nursed out.

261 houses were found to be clean, 105 fairly clean, and 13 were dirty.

223 children had been insured, and 146 children had not been insured.

PARTICULARS RESPECTING THE VISITATION OF 2,817 CHILDREN BORN DURING 1910.

During 1910, the four Lady Inspectors have visited and reported upon 2,817 infants out of 2,948 children born during the year.

During the first visits to these 2,817 infants it was found that the occupation of the mothers was as follows:—

Housewives	...	1,352
Weavers	.....	846
Winders and Warpers	.....	201
Cardroom-hands	.....	113
Ring-spinners	.....	98
Drawers-in	.....	6
Other occupations	.....	201

Of these cases reported upon, it was found that, at the confinement—

1,381 mothers had been attended by midwives.

1,150 ,, ,, doctors.

234 ,, ,, doctors and midwives.

31 ,, ,, handy women.

21 births occurred before the arrival of either doctor or mid-wife

34 births occurred at the Blackburn Workhouse.

Fuller particulars on re-visitation of the homes have been obtained by the Lady Inspectors during 1910 respecting 2,709 infants, and it has been convenient to divide these into the three following groups :—

(a) Particulars respecting 389 infants *under* 3 months of age.

(b) Particulars respecting 2,036 infants *above* 3 months of age.

(c) Particulars respecting 284 infants who were born during 1910, and who died before the end of the year 1910.

(A) PARTICULARS RESPECTING 389 INFANTS UNDER
3 MONTHS OF AGE.

Age of Mother at birth of 1st child	{ 20 and under 30 " " over 30	{ 89 260 40	{ 389
Industrial Work	{ discontinued before confinement resumed after con- finement	{ under 1 mth. 1 " 2 " 3 " 1 " 2 " 3 "	{ 32 46 30 68
Feeding at 1st visit	{ breast entirely breast partly artificial	{ 305 13 71	{ 389
Mode of Feeding	{ Hygienic Bottle Tube Bottle Hy. Bot. & Tube Bot. spoon	{ 70 9 5 ...	
Condition	{ of child of house	{ clean fair dirty clean fair dirty sleeping alone	{ 372 16 1 348 33 8 63

(B) PARTICULARS RESPECTING 2036 INFANTS
OVER 3 MONTHS OF AGE.

Age of Mother at birth of 1st child		{ 20 and under 30 " " over 30	414 1473 149	} 2036
Industrial Work		{ discontinued before confinement resumed after con- finement	{ under 1 mth. 1 " " 2 mths. 3 " " 1 mth. 2 mths. 3 " "	
			149 205 234 322 254 194 231	
Infant nursed		{ home out	1589 447	} 2036
Feeding		{ breast entirely breast partly from birth	{ 1 mth. and under 2 mths. " 3 " " 6 " " 1 mth. " 2 mths. " 3 " " 6 " " artificial entirely	
			267 297 275 835 21 20 18 32 271	} 2036
Mode of feeding		{ Hygienic Bottle Tube Bottle Hy. Bot. & Tube Bot. spoon	639 163 165 181	
		slept alone no comforter	601 632	
Condition		{ of child of house	{ clean fair dirty clean fair dirty	} 2036
			1933 68 35 1639 313 84	
General condition of case		satisfactory fairly satisfactory unsatisfactory	1145 610 281	} 2036

(C) PARTICULARS RESPECTING 284 INFANTS WHO WERE
BORN DURING 1910 AND WHO DIED BEFORE THE END
OF THE YEAR 1910.

Age of mother at birth of 1st child.....		20 & under	72	284
		30 ,,	192	
		over 30	20	
Industrial Work..	Discontinued before confinement	under 1 month	34	284
		1 month	37	
		2 months	20	
	Resumed after confinement	3 months	65	
		1 month	12	
		2 months	9	
Infant Nursed		3 months	14	284
		home		
Feeding	Breast entirely	out	21	
		1 mth & under	65	
		2 mths & under	28	
		3 ,, ,,	16	
		6 ,, ,,	26	
		1 mth & under	7	
	Breast partly from birth	2 mths & under	1	
		3 ,, ,,	4	
		6 ,, ,,	3	
		Artificial entirely	74	
Mode of Feeding		Not fed	60	
	Hygienic Bottle	Tube Bottle	77	
		Hy. Bot. & Tube Bot.	16	
		Spoon	18	
		Before 1st visit	31	
Dead		Under 2 months	133	284
		Under 2 months	33	
		,, 3 ,,	19	
		,, 6 ,,	52	
		Over 6 ,,	47	
Condition	of child	clean	175	224*
		fair	42	
		dirty	7	
	of house	clean	219	284
		fair	48	
		dirty	17	
General condition of case		satisfactory	136	224*
		fairly sat.	53	
		unsatisfactory	35	
		Infants sleeping alone	32	

* 60 infants died too young for these points to be noted.

The following foods were found in use :—

Neave's Foods in	98 instances.
Cornflour	8 „
Mellin's Food	11 „
Prepared Barley	67 „
Sago	35 „
Moseley's Food	60 „
Allenbury's Food	30 „
Frame Food	6 „
Nestle's Milk	33 „
Horlick's Food	11 „
Benger's Food	10 „
Bread and Milk	96 „
Rusks	13 „
Biscuits	8 „
Other foods	16 „

In the Annual Health Report for 1909, the results of an Inquiry respecting the question of the further regulation of the industrial employment of women before and after child-birth were published.

In that Report, it was found that miscarriages and still-births had occurred more frequently during previous years amongst the mothers *not* industrially employed than amongst the industrially employed mothers, to the extent of 4.7 per cent. But those figures only dealt with 317 industrially employed mothers and 175 mothers *not* industrially employed.

It should be remembered, however, that many mothers employed in household duties at the time of inquiry had worked in cotton mills during an earlier portion of their lives.

It was thought advisable, therefore, that this portion of the inquiry might be made again on a larger scale.

Accordingly, at every birth inquiry made during 1910, where at all convenient, particulars as to the number of still-births and miscarriages were obtained. The results were as follows:—

AREAS.	Working Mothers.			Non-working Mothers.		
	No. in inquiry.	No. having had Still-births and Miscarri'g's	No. of Still-births and Miscarri'g's	No. in inquiry.	No. having had Still-births and Miscarri'g's	No. of Still-births and Miscarri'g's
1	166	32	44	310	61	97
2	233	46	83	219	57	79
3	217	49	61	197	65	111
4	273	71	119	179	67	128
Total.....	889	198	307	905	250	415

The figures have been given for the four districts separately as well as collectively, since the contrast between the results of the inquiry is interesting.

No. 1 is the highest class area and No. 4 the lowest.

Again, it will be seen that a greater proportion of mothers not industrially employed had previously had still-births and miscarriages than had occurred amongst the mothers industrially employed.

As already mentioned, two extra Lady Inspectors were appointed during the latter half of 1910, for the purpose of visiting infants under the Notification of Births Act. It was necessary, therefore, to divide the two original districts into four districts, so that each lady might be responsible for the visitation of infants in her own district. That this division has proved satisfactory, in respect to a fairly equal division of the work, is shown by the fact that in each of the four districts respectively there were born, during 1910, 748, 739, 691, and 639 children. Under former conditions, when there were only

two Lady Inspectors for the whole of the Borough, a great difficulty was experienced in their inability to pay more than two visits each to the majority of infants notified. As I have mentioned before, the important part of this work lies in the repeated visitation of these children. It is now much more easy to deal satisfactorily with each case. The fact that more children are kept under supervision for a longer period has increased considerably the figures relating to nursed-out infants and infants fed on proprietary foods when compared with previous years. For the same reason the number of infants found sleeping alone has also increased. For example, during 1909 only 237 infants were found to be sleeping alone, whilst the corresponding figure for 1910 is well over 600. It is now quite common to find a banana-box or an orange-box being used for a cot. This must tend to diminish the number of cases of overlaying, and must cause an improvement in the child's health generally.

Respecting the mode of feeding, it has been more easy to detect improper modes of feeding by repeated visitation.

I believe that the use of the long-tube bottle is on the decline. Certainly the Lady Inspectors have burnt a large number of long-tube bottles, with the accompanying teats, and have given in exchange a hygienic teat, so that it can be placed on a clean medicine bottle. A teat is never given to any mother unless the long-tube bottle is surrendered to be burnt. At one house three long-tube bottles were destroyed on three consecutive visits. Subsequently, however, a hygienic bottle was found to be in regular use for this particular child.

The Lady Inspectors still experience many difficulties in getting the mothers to appreciate properly the value of fresh milk for infants, if, for any reason, it is necessary for such mothers to discontinue breast-feeding or to augment breast-feeding by cow's milk. The ladies are constantly told that the infant is a hungry baby, and this is practically always made an excuse for giving an unsuitable food or for feeding the child too often. Recently, a premature baby, weighing $4\frac{1}{2}$ lb. at birth,

was visited when it was two weeks old. This was being fed on Neave's food, and the medical man who had advised fresh cow's milk had not been informed of this change of diet. Unfortunately, too often, no care is taken in the household to prevent milk from being contaminated. Frequently, after milk has been heated, it is placed in a warm corner over the oven for hours, so that it may be kept warm for the infant. A short time ago a young infant was discovered who was being fed on bread and water. The parent stated that he knew water was pure, but he did not know what was in the milk. As a rule the parents who make these assertions are those who are less inclined to take those precautions against milk being contaminated, which they can take. The idea that fresh cow's milk must not be given to an infant who is being breast-fed partially is, fortunately, much less common than it was, and fewer infants are now being weaned merely because the mother goes to work.

Out of 1,225 infants visited after they had reached the age of six months, 577 were found to be wholly or partially breast-fed. Feeding-cards are distributed freely to the nurses as well as to the mothers, and in many cases are valued highly. It has often occurred that a mother has borrowed such a card from a neighbour until she herself could obtain one from the Health Office.

Respecting the conditions under which many young infants live, ventilation in the homes is very deficient. An open window, unless the weather is very hot, is rarely seen, and frequently windows are nailed up or permanently closed. Such infants can, therefore, obtain very little fresh air whilst they are inside the house. At one home visited, the baby's cradle was found side by side with the dog kennel, in what was considered by the mother to be the most comfortable corner of the room, namely, the recess underneath the stairs. The baby was in the cradle and there were three dogs in the kennel.

The number of infants brought to the Health Office, on Thursday afternoons, to be weighed, has increased during 1910. There have been 321 attendances for this purpose during 1910,

as compared with 113 attendances during 1909. This branch of the work has been supervised by Dr. Buchanan and the Lady Inspectors. The prejudice against weighing babies is certainly decreasing rapidly.

Since May, 1910, the Visitor appointed by the Blackburn Guardians under the Children's Act has notified the addresses to me of all infants born in the Workhouse and who have left that institution in charge of their mothers. Also, notifications are sent to the Guardians of all nursed-out children coming within the definition of the Children's Act, and who are met with by the Lady Inspectors whilst visiting.

The work of the Nursing Mothers' Aid Society, which has its Restaurant at 10, Mary Ann-street, and of which I gave a full account in my Annual Report for the year 1907, has been carried on successfully for another year, the Society having now been in existence for nearly four years. During the year 1910, about 20 of the mothers attending the Restaurant have received the certificate given by the Society for the proper care of their infants during the first year of life, and each of these mothers has been presented with a set of babies' clothes as a mark of the satisfaction of the Committee with the care she has taken of her child. The weighings of the infants, which takes place weekly, are shown in the charts which Mr. Henry Schofield, the honorary secretary of the Society, has placed at my disposal for inspection. The charts are tabulated on Appendix "B" at the end of this Report. The weighing is done by medical practitioners, and the Society is fortunate in having four of these gentlemen who give their services without remuneration. Addresses to the mothers are given at intervals by competent persons on the feeding and care of infants. The attendance of Mothers at the Restaurant during 1910 has been more regular than during the previous years.

The Society is doing a useful and valuable work, and is deserving of greater support; and it would be of benefit to the town if its operations could be extended.

Although I have mentioned a few instances in which an undesirable state of affairs exists, and in which there is urgent need for improvement, I am able to state that, in my opinion, the conditions under which infants are fed and nursed in Blackburn are probably better now than ever they were. This improvement is due to the increased knowledge obtained by mothers than was formerly the case, and such increase of knowledge is due, in a great measure, to the visitation of the homes by the Lady Inspectors from the Health Office, who have shown throughout much tact and ability in carrying out their work, and who have thereby encouraged and advised mothers in the important duties of motherhood, particularly those duties connected with the proper care and feeding of infants.

TABLE XVI.

INFANTILE MORTALITY IN WARDS FROM 1901 to 1910.

WARD.	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	Average for 10 years.
St. Stephen's	145	168·1	123·8	177·0	156·1	157·3	126·8	137·8	101·9	101·8	139·5
Trinity ...	240	143·3	194·4	192·4	182·9	169·4	158·8	153·0	172·4	191·4	179·8
St. Michael's	111	152·4	97·5	132·4	138·3	133·0	130·2	120·1	102·4	101·5	121·8
St. John's	165	122·1	177·0	159·2	141·4	140·6	151·8	155·0	125·8	115·6	145·3
St. Silas'..	156	70·0	122·9	129·2	75·4	97·2	105·1	75·3	85·3	37·0	95·6
St. Paul's	180	152·7	161·7	251·8	153·8	127·8	140·4	146·7	137·0	135·1	158·7
St. Peter's	238	183·4	181·8	230·3	131·1	230·7	211·6	240·8	142·0	177·2	196·6
St. Mary's	385	138·7	229·2	227·9	176·1	257·6	262·1	185·1	171·7	226·0	225·9
St. Matthew's	247	145·1	171·5	195·6	130·9	133·5	144·8	143·3	114·0	141·0	156·6
St. Thomas's	189	195·7	132·0	215·0	132·0	135·8	125·4	127·3	114·2	129·4	149·5
Park	148	167·3	170·8	163·7	157·2	148·2	146·8	169·6	140·4	133·3	154·5
St. Luke's	231	180·7	166·0	189·8	206·8	224·5	204·9	147·8	127·7	173·0	185·2
St. Mark's	156	172·2	149·6	194·6	121·0	187·0	145·1	124·0	113·7	100·9	146·4
St. Andrew's	170	177·1	152·8	205·1	125·0	83·3	112·7	166·6	135·6	140·5	146·8
Borough...	193	157·8	158·2	191·9	146·2	155·9	151·7	149·3	127·4	136·0	156·7

TABLE XVII.

POPULATIONS, ACREAGE, DENSITY AND AVERAGE
INFANTILE MORTALITY IN WARDS.

Name of Ward.	Population.	Acreage.	Density, i.e., No. of Persons per Acre.	Average Infantile Mortality from 1901 to 1910.
St. Stephen's...	10047	1158·849	8·6	139·5
Trinity	10400	144·697	71·8	179·8
St. Michael's...	9776	630·361	15·5	121·8
St. John's	7952	102·319	77·7	145·3
St. Silas'	11125	993·871	11·1	95·6
St. Paul's	10146	123·476	82·1	158·7
St. Peter's.....	7360	134·198	54·8	196·6
St. Mary's.....	6777	171·282	39·5	225·9
St. Matthew's..	9867	112·344	87·8	156·6
St. Thomas' ...	14133	1721·649	8·2	149·5
Park	9529	654·017	14·5	154·5
St. Luke's	8817	154·275	57·1	185·2
St. Mark's.....	9674	404·842	23·8	146·4
St. Andrew's...	11393	925·427	12·3	146·8
Borough	136996	7431·607	18·4	156·7

TABLE XVIII. — Deaths under One Year, arranged according to Days, Weeks, and Months.

	1st day.	2nd day.	3rd day.	4th day.	5th day.	6th day.	7th day.	1st week.	2nd week.	3rd week.	4th week.	Under 1 month.	1 month to 2.	2 months to 3.	3 months to 4.	4 months to 5.	5 months to 6.	6 months to 7.	7 months to 8.	8 months to 9.	9 months to 10.	10 months to 11.	11 months to 12.	Total.
Six Zymotic Diseases .....	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	...	1	1	2	2	2	4	1	16
Diarrhœa .....	...	...	...	...	...	...	...	...	...	...	1	1	5	7	6	8	4	4	3	4	5	4	7	58
Lung Diseases .....	...	...	...	...	...	...	...	...	...	3	1	4	10	8	2	6	6	13	10	4	6	9	5	83
Convulsions	3	2	...	...	...	...	2	7	1	5	2	15	2	3	1	2	2	1	...	...	...	...	...	26
Tuberculosis .....	...	...	...	...	...	...	...	...	...	...	...	...	2	3	1	3	2	2	1	...	5	...	...	19
Debility, Marasmus, Atrophy, Inanition.....	2	4	...	...	1	1	...	8	2	2	1	13	5	3	6	4	3	3	...	1	2	4	...	44
Premature Birth	27	6	4	2	3	1	2	45	5	5	2	57	3	2	1	...	...	...	...	...	...	...	...	63
Dentition .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
All others	25	4	2	1	...	...	1	33	9	1	3	46	9	5	7	4	4	4	4	1	4	3	1	92
All Causes	57	16	6	3	4	2	5	93	17	16	10	136	36	33	25	27	22	28	20	12	24	24	14	401

TABLE XIX. —Deaths under One Year from 1894—1910.

Disease.	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910
Zymotic Diseases	29	107	30	75	17	51	57	36	29	24	54	22	27	34	18	21	16
Diarrhœa	58	211	79	112	153	79	143	149	54	78	98	76	136	40	115	44	58
Lung Diseases	103	124	107	138	114	107	140	100	99	116	139	83	69	124	84	84	83
Convulsions	68	63	58	51	51	54	49	40	23	30	30	26	35	22	27	23	26
Tuberculosis	45	59	36	46	31	26	45	41	46	38	43	28	20	30	23	15	19
Debility, Atrophy, Marasmus, Inanition	73	45	48	53	63	39	24	47	69	46	59	54	71	48	62	38	44
Premature Birth, Developmental.....	87	115	82	80	93	105	110	103	90	100	97	86	89	107	91	87	81
Dentition.....	11	26	14	19	12	21	17	18	20	7	10	10	17	17	4	7	.
All Others	135	170	157	178	216	223	177	122	100	84	65	82	69	86	86	81	74
All Causes	69	920	611	752	750	706	762	656	530	523	595	467	533	508	510	400	401

TABLE XX.—Analysis of Deaths under One Year of Age for the last Eight Years.

	1903.		1904.		1905.		1906.		1907.		1908.		1909.		1910.	
	Deaths	Rate per 1000 Births	Deaths	Rate per 1000 Births	Deaths	Rate per 1000 Births	Deaths	Rate per 1000 Births	Deaths	Rate per 1000 Births	Deaths	Rate per 1000 Births	Deaths	Rate per 1000 Births	Deaths	Rate per 1000 Births
Zymotic Diseases.	24	7.2	54	17.4	22	6.8	27	7.8	34	10.1	18	5.2	21	6.6	16	5.4
Diarrhoea	78	23.6	98	31.6	76	23.8	130	39.7	40	11.9	115	33.6	44	14.0	58	19.6
Lung Diseases	116	35.1	139	44.8	83	25.9	69	20.1	124	37.4	84	24.5	84	26.7	83	28.1
Convulsions	30	9.0	30	9.6	26	8.1	35	10.2	22	6.5	27	7.9	23	7.3	26	8.8
Tuberculosis	38	11.5	43	13.8	28	8.7	22	5.8	30	8.9	23	6.7	15	4.7	19	6.4
Debility, Atrophy, Marasmus, Inanition	46	13.9	59	19.0	54	16.9	71	20.7	48	14.3	62	18.1	38	12.1	44	14.9
Premature Birth, Developmental.	100	30.2	91	31.2	86	26.9	89	26.0	107	31.9	91	26.6	87	27.7	81	27.4
Dentition	7	2.1	10	3.2	10	3.1	17	4.9	17	5.0	4	1.1	7	2.2	..	..
All Others	84	25.4	65	20.9	82	25.6	69	20.1	86	25.0	86	25.1	81	25.8	74	25.1
All Causes	523	158.2	595	191.9	467	146.2	533	155.9	508	151.7	510	149.8	400	127.4	401	136.0

Notifications received under the Notification of Births Act.

TABLE XXI.

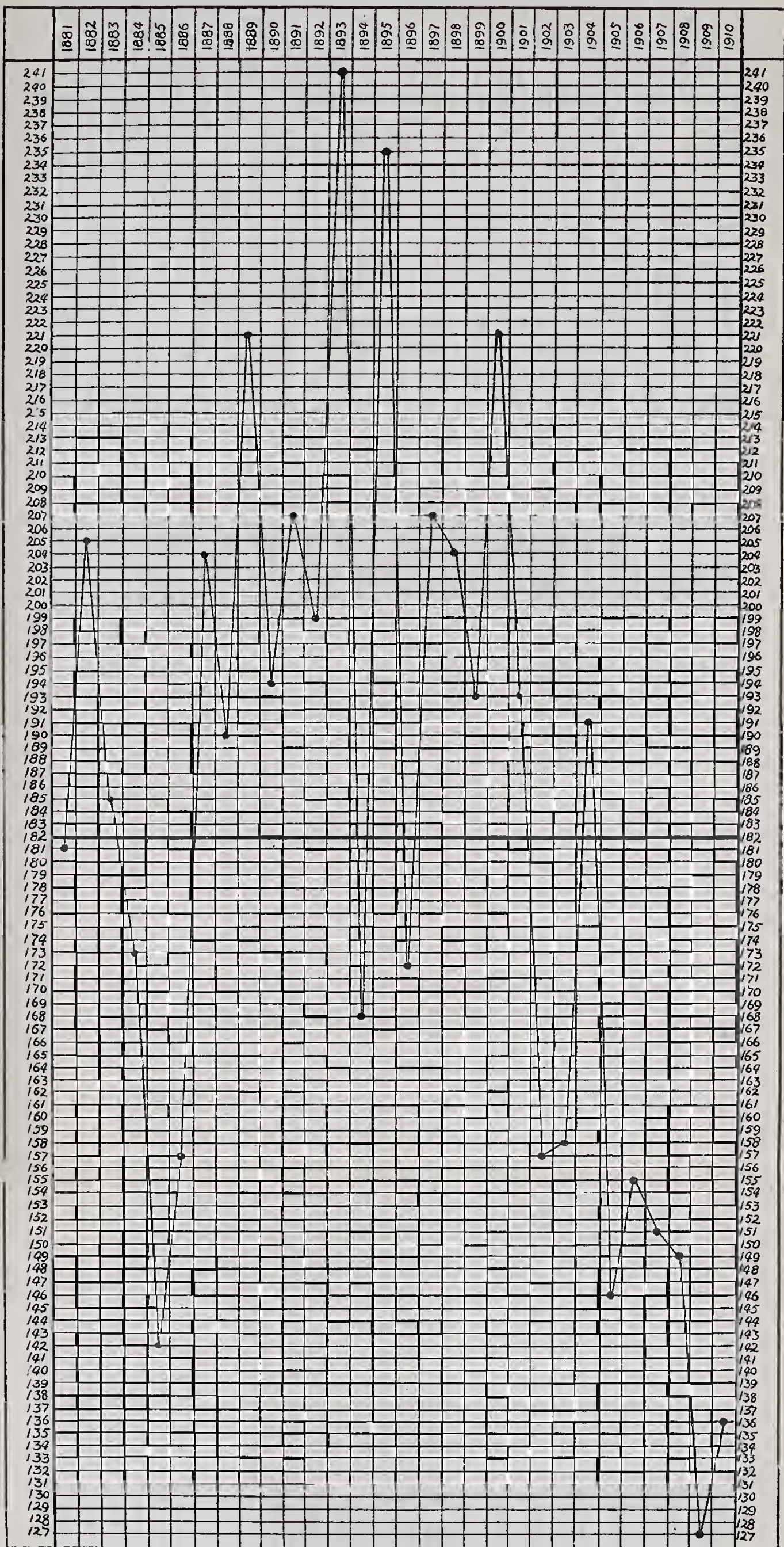
Month	Births Notified	Stillbirths Notified	Medical Men	Midwives	Parents	Others	Males	Females	Sex not stated
January	249	11	70	125	49	5	125	122	2
February	250	14	60	123	67	...	117	128	5
March	257	11	78	115	59	5	126	125	6
April	257	12	72	120	61	4	132	117	8
May	309	8	90	139	75	5	152	148	9
June	278	13	77	153	45	3	140	130	8
July	224	13	65	111	47	1	118	101	5
August	266	7	79	131	53	3	145	114	7
September	285	13	70	138	70	7	152	124	9
October	224	10	50	120	49	5	112	103	9
November	272	16	73	143	55	1	136	129	7
December	260	10	61	150	46	3	141	105	14
TOTAL	3131	138	845	1568	676	42	1596	1446	89

TABLE XXII.

Deaths Under One Year to 1,000 Births Registered.															
28 Large Towns.	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	Average
London.....	158	167	167	160	149	141	131	144	131	132	115	113	107	102	137
Brighton ...	142	181	173	166	170	125	110	134	100	111	112	104	97	111	130
Portsmouth	148	156	197	155	162	151	113	141	133	130	124	98	95	104	137
Norwich	166	192	179	178	185	156	149	179	174	176	125	115	119	103	159
Plymouth	183	170	190	175	149	154	144	173	136	152	109	129	130	114	150
Bristol	148	164	158	133	130	130	116	133	122	128	100	126	100	91	127
Wolverhampton.....	217	200	184	206	162	133	141	152	136	140	130	132	138	107	155
Birmingham	215	191	191	199	186	156	158	195	155	168	148	145	134	130	169
Leicester	203	191	195	175	175	152	161	163	147	166	132	132	127	127	160
Nottingham	206	178	210	196	193	158	164	175	155	171	165	146	150	129	171
Derby	167	169	162	174	154	124	128	143	151	114	120	112	124	85	137
Birkenhead	162	186	183	160	181	148	155	180	127	151	109	136	124	135	152
Liverpool	200	181	198	186	187	162	159	196	154	171	145	142	144	139	169
Bolton	186	168	181	171	171	134	152	167	166	138	146	149	129	117	155
Manchester.....	194	197	206	189	198	152	168	187	157	166	147	151	134	132	169
Salford	220	212	209	207	204	155	166	193	150	160	141	153	142	130	174
Oldham	183	175	198	172	172	148	160	155	150	145	145	160	122	128	158
Blackburn	207	205	189	221	193	157	159	191	146	155	151	149	127	136	170
Preston	263	225	255	236	216	188	161	183	152	200	158	154	136	158	192
Huddersfield	130	153	152	132	131	137	120	136	119	135	97	111	95	99	124
Halifax.....	140	133	159	132	127	143	122	130	130	118	104	101	97	91	125
Bradford	178	185	181	141	168	138	147	166	144	152	125	143	116	127	150
Leeds	191	182	171	183	188	159	153	176	152	152	132	138	121	132	159
Sheffield	197	195	194	200	200	149	182	158	167	158	146	140	118	127	166
Hull	178	182	175	183	174	137	162	181	153	161	127	145	114	135	157
Sunderland	161	202	175	169	181	152	156	165	143	140	130	147	136	129	156
Newcastle-on-Tyne.	177	190	193	170	178	139	165	156	135	151	123	137	120	121	154
Cardiff	150	158	184	141	147	146	122	144	118	135	132	126	104	112	137
Average.....	183	172	186	175	171	147	147	164	143	148	129	133	121	120	

CHART 1.

Infantile Mortality, 1881-1910.



AVERAGE FOR 30 YEARS = 182

TABLE XXIII.

Showing Deaths, Death Rates, and Birth Rates in Wards for each Month.

JANUARY.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's.....	24.6	18.7	...	...	...	...	...	...	1	2	1	12
Trinity	18.1	11.3	...	1	...	...	...	...	1	4	...	4
St. Michael's.....	20.3	12.0	...	...	...	...	...	...	...	1	...	9
St. John's	19.2	17.7	...	...	...	...	...	...	...	1	2	9
St. Silas'	9.5	5.2	...	...	...	...	1	...	...	...	1	3
St. Paul's	20.8	19.7	...	...	...	...	...	1	...	2	3	11
St. Peter's.....	38.3	14.3	...	...	...	...	...	...	...	1	2	6
St. Mary's	22.5	19.1	...	...	...	...	...	...	...	3	2	6
St. Matthew's	25.0	26.2	...	...	...	...	...	...	...	4	2	16
St. Thomas'	15.8	6.6	...	...	...	...	...	...	...	4	...	4
Park	17.2	19.7	...	...	...	...	...	...	...	2	1	13
St. Luke's.....	14.6	16.0	...	...	...	...	...	...	...	3	...	9
St. Mark's.....	18.2	9.7	...	1	...	...	...	...	...	1	1	5
St. Andrew's	19.6	14.4	...	...	...	...	...	...	...	3	2	9
Borough.....	19.7	14.6	...	2	...	...	1	1	2	31	17	116

FEBRUARY.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's.....	35.0	10.3	...	...	...	...	...	...	...	2	...	6
Trinity	33.8	17.5	...	1	...	...	...	...	1	3	1	8
St. Michael's.....	21.3	15.9	...	...	...	...	...	...	...	4	1	7
St. John's	32.7	14.7	...	...	...	...	...	...	...	1	2	6
St. Silas'	12.8	10.5	...	...	...	...	...	...	...	1	1	7
St. Paul's	20.5	16.6	...	...	...	...	...	...	1	3	...	9
St. Peter's.....	23.1	14.1	...	...	...	...	...	...	...	1	...	7
St. Mary's.....	15.3	15.3	...	...	...	...	...	...	...	3	...	5
St. Matthew's	27.7	31.6	...	1	...	...	...	...	...	5	1	17
St. Thomas'	18.4	11.0	...	...	...	...	...	...	...	4	...	8
Park	28.7	13.6	...	...	...	...	...	...	...	...	3	7
St. Luke's	32.5	14.7	...	...	...	...	...	1	...	1	...	8
St. Mark's.....	26.6	16.2	...	1	...	...	...	...	...	1	...	9
St. Andrew's	26.3	16.0	...	...	...	...	...	...	...	3	...	11
Borough	25.0	15.4	...	3	...	...	...	1	2	32	9	115

TABLE XXIII.—*continued.*

MARCH.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's.....	21'0	11'7	...	...	1	...	...	...	3	1	5
Trinity	15'8	21'5	...	...	...	1	...	...	5	1	11
St. Michael's.....	15'6	12'0	...	...	...	...	...	1	2	1	6
St. John's	22'2	14'8	...	...	...	...	...	...	2	1	7
St. Silas'	6'3	9'5	...	...	...	...	...	...	...	1	8
St. Paul's	32'4	22'0	...	...	...	...	...	...	3	1	15
St. Peter's	19'1	17'5	...	...	...	...	...	...	4	1	6
St. Mary's	22'5	20'8	1	...	...	...	...	...	4	1	6
St. Matthew's	26'2	15'5	...	1	...	...	...	...	4	2	6
St. Thomas'	18'3	10'8	...	...	...	...	...	...	3	1	9
Park	32'1	14'8	...	...	...	...	...	...	3	...	9
St. Luke's.....	17'3	13'3	...	...	...	...	...	...	2	...	8
St. Mark's.....	32'8	8'5	...	2	...	...	...	...	1	1	4
St. Andrew's.....	18'5	19'6	1	2	...	...	...	1	1	...	13
Borough.....	21'2	14'9	2	5	1	1	...	1	3	37	113	

APRIL.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's.....	26·6	14·5	1	1	...	...	...	...	2	..	8
Trinity	17·5	12·8	...	...	...	1	...	...	4	2	4
St. Michael's.....	22·3	11·1	...	...	...	...	...	...	1	1	7
St. John's	19·8	15·2	...	...	...	...	...	...	2	1	7
St. Silas'	17·4	7·6	...	...	...	...	...	...	1	...	6
St. Paul's	28·7	14·3	...	...	...	...	...	...	3	1	8
St. Peter's	9·9	21·4	...	...	...	...	...	1	3	2	7
St. Mary's.....	28·7	30·5	...	...	...	...	...	...	4	...	13
St. Matthew's	27·1	18·4	3	...	...	...	...	...	1	2	9
St. Thomas'	22·3	13·7	1	...	...	...	...	...	6	2	8
Park	28·0	6·3	...	...	...	...	...	...	...	...	5
St. Luke's.....	19·3	20·7	...	...	...	1	...	...	4	...	10
St. Mark's.....	12·5	20·1	...	...	...	1	...	...	3	1	11
St. Andrew's.....	10·6	11·7	...	...	...	...	...	...	2	...	9
Borough.....	20·7	15·0	5	1	...	3	1	36	12	112

TABLE XXIII.—*continued.*

MAY.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's.....	30.4	15.2	4	...	...	...	...	1	...	2	...	6
Trinity	33.9	15.8	2	...	...	...	...	...	...	3	2	7
St. Michael's	15.6	9.6	1	...	...	...	...	...	...	1	...	6
St. John's	22.1	7.3	...	...	...	...	...	...	...	1	...	4
St. Silas'	12.6	4.2	...	...	...	...	...	...	...	1	...	3
St. Paul's	23.2	12.7	...	...	...	...	...	...	...	2	2	7
St. Peter's	17.5	11.2	...	...	...	...	...	...	...	...	1	6
St. Mary's	20.8	27.7	3	...	...	...	...	...	...	2	3	8
St. Matthew's	19.0	15.5	1	...	...	...	...	...	...	2	2	8
St. Thomas'	16.6	12.4	...	...	...	...	...	...	...	4	...	10
Park	20.9	8.6	...	...	...	...	...	...	1	1	1	4
St. Luke's	26.7	18.6	...	...	...	1	...	...	...	3	2	8
St. Mark's	27.8	20.6	...	1	...	...	...	...	2	2	...	12
St. Andrew's.....	29.9	14.4	...	1	1	...	...	...	...	1	2	9
Borough.....	22.6	13.5	11	2	1	1	...	1	3	25	15	98

JUNE.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's.....	22.9	16.9	1	...	...	...	...	...	1	2	...	10
Trinity	30.1	15.2	1	...	...	...	...	...	...	2	...	10
St. Michael's	17.4	7.4	1	...	...	...	...	...	...	1	2	2
St. John's	24.4	12.2	...	...	...	...	...	...	...	2	...	6
St. Silas'	21.8	9.8	...	1	...	...	...	...	...	...	...	8
St. Paul's	25.1	11.9	...	...	...	...	...	1	...	1	...	8
St. Peter's	28.0	13.2	...	1	...	...	...	...	...	1	...	6
St. Mary's	25.1	16.1	1	...	...	...	...	...	...	2	2	4
St. Matthew's	17.2	8.6	1	...	...	...	...	...	...	...	1	5
St. Thomas'	29.2	11.1	1	2	...	...	...	...	...	3	...	7
Park	25.5	12.7	1	...	...	...	...	...	1	2	1	6
St. Luke's	33.1	12.4	1	...	...	...	...	...	...	1	1	6
St. Mark's.....	22.6	10.0	...	...	...	...	...	...	...	2	2	4
St. Andrew's.....	24.5	7.4	...	...	...	...	...	...	...	2	1	4
Borough.....	24.7	11.6	8	4	...	...	...	1	2	21	10	86

TABLE XXIII.—continued.

JULY.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Group	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuber- culosis	All other Causes
St. Stephen's.....	22·2	9·3	...	...	...	...	...	...	2	...	6
Trinity	16·9	15·8	...	...	...	...	...	...	4	2	8
St. Michael's.....	18·0	10·8	1	...	1	...	...	...	2	...	5
St. John's	28·1	8·8	1	...	...	...	...	...	1	1	3
St. Silas'	9·5	4·2	...	...	...	...	...	...	...	...	4
St. Paul's	22·0	15·0	...	...	...	...	...	1	1	1	11
St. Peter's.....	23·7	15·9	...	...	...	...	...	2	1	3	4
St. Mary's.....	24·3	17·3	...	...	...	...	...	...	1	2	7
St. Matthew's	14·3	11·9	...	...	...	...	1	2	1	...	6
St. Thomas'	19·1	6·0	...	...	1	...	...	...	1	...	8
Park	30·8	11·1	...	...	...	...	...	...	...	...	9
St. Luke's	29·3	16·0	...	...	...	...	...	...	2	...	10
St. Mark's	17·0	9·7	...	1	...	...	...	...	1	1	5
St. Andrew's.....	21·6	8·2	...	...	...	...	...	...	2	...	6
Borough.....	20·7	11·0	2	1	2	1	5	19	10	92

AUGUST.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Group	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuber- culosis	All other Causes.
St. Stephen's.....	28·1	21·0		1					2	1	3	11
Trinity	20·3	15·8							1 2	1	1	9
St. Michael's.....	26·4	8·4			1					3	1	2
St. John's	17·7	8·8							1		1	4
St. Silas'	7·4	6·3								1	1	4
St. Paul's	19·7	17·4							2		1	12
St. Peter's	23·9	17·5	1						1		1	9
St. Mary's	19·1	17·3							2	3		5
St. Matthew's	25·0	14·3						1	1	1	3	6
St. Thomas'	18·3	14·1	1						1	3	2	11
Park	16·0	22·2								1	1	16
St. Luke's	22·6	13·3								4	1	5
St. Mark's	17·0	9·7						1		1		6
St. Andrew's.....	19·6	6·1						1		1	1	3
Borough.....	19·9	13·5	2	1	1			4	12	20	17	103

TABLE XXIII.—*continued.*

SEPTEMBER.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	W'g C'gh	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuber- culosis	All other Causes
St. Stephen's.....	35'0	16'9	...	...	1	...	...	...	2	5	...	6
Trinity	31'5	24'5	1	...	2	...	...	...	2	3	2	11
St. Michael's.....	14'9	8'7	...	1	...	...	...	...	1	2	...	3
St. John's	21'4	7'6	...	...	...	...	...	...	...	...	1	4
St. Silas'	9'8	5'4	...	1	...	...	...	...	...	1	...	3
St. Paul's	15'5	8'3	...	1	...	...	...	...	...	1	...	5
St. Peter's	14'8	14'8	...	...	...	...	...	...	1	2	...	5
St. Mary's	19'7	21'5	...	...	1	...	...	...	...	3	1	7
St. Matthew's	24'6	8'6	...	...	1	...	...	...	...	1	1	4
St. Thomas'	24'0	12'9	...	...	...	...	...	...	4	1	2	7
Park	20'4	8'8	...	...	...	...	...	...	...	3	1	3
St. Luke's	23'4	17'9	...	...	...	...	...	...	2	...	...	11
St. Mark's.....	26'3	12'5	...	...	...	...	...	...	...	3	1	6
St. Andrew's.....	23'4	9'6	...	...	...	...	...	1	3	1	...	4
Borough.....	22'0	12'5	1	3	5	...	...	1	15	26	9	79

OCTOBER.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	W'g C'gh	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases.	Tuber- culosis.	All other Causes.
St. Stephen's.....	25'7	14'0	...	...	...	...	...	...	...	3	3	6
Trinity	21'5	13'5	...	...	...	...	...	...	2	2	4	4
St. Michael's.....	28'8	7'2	...	1	...	...	...	...	...	1	...	4
St. John's	17'7	17'7	...	...	...	...	...	...	2	3	2	5
St. Silas'	12'6	5'1	...	...	...	...	...	...	...	1	1	1
St. Paul's	20'8	15'0	...	...	...	...	1	1	1	1	1	8
St. Peter's	14'3	25'5	1	...	...	...	...	...	7	2	...	6
St. Mary's	22'5	13'8	...	...	...	...	...	1	1	2	1	4
St. Matthew's	22'6	10'7	1	...	2	...	...	1	1	1	...	4
St. Thomas'	18'3	10'8	...	...	...	...	...	1	3	3	...	6
Park	34'5	16'0	...	...	...	...	...	...	2	5	...	3
St. Luke's	25'5	26'6	...	...	...	...	1	...	3	2	3	11
St. Mark's.....	17'0	6'0	...	...	...	...	...	1	2	...	...	2
St. Andrew's.....	25'8	11'3	...	...	...	...	...	...	4	2	...	5
Borough.....	22'8	13'1	2	1	2	...	2	3	28	28	18	69

TABLE XXIII.—continued.

NOVEMBER.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Wp g Cgh	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuber- culosis.	All other Causes
St. Stephen's.....	21'0	7'0	...	...	...	...	...	1	...	1	4
Trinity	18'1	19'2	...	...	...	...	...	3	2	11	
St. Michael's.....	27'6	15'6	...	1	...	...	1	1	1	8	
St. John's	16'2	8'8	...	...	...	...	...	2	...	3	
St. Silas'	10'5	9'5	...	1	...	...	...	2	1	6	
St. Paul's	13'9	17'4	...	...	1	...	...	1	2	11	
St. Peter's.. ..	15'9	17'5	1	...	1	...	...	2	2	6	
St. Mary's	27'7	22'5	...	...	...	...	...	3	...	10	
St. Matthew's ..	28'6	22'6	1	...	1	1	1	1	5	9		
St. Thomas'	20'7	9'9	...	...	...	...	...	2	1	9	
Park	23'4	22'2	...	...	...	...	...	4	3	11	
St. Luke's	17'3	16'0	...	...	2	...	...	1	1	8	
St. Mark's	21'9	17'0	...	...	...	...	...	5	...	9	
St. Andrew's.....	21'6	15'4	...	...	...	...	2	3	...	10	
Borough	20'2	15'4	2	2	3	3	2	2	4	35	12	115

DECEMBER.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuber- culosis	All other Causes
St. Stephen's.....	22'2	17'5	...	...	...	...	...	...	6	...	9
Trinity	14'7	19'2	...	...	...	...	...	...	4	2	11
St. Michael's.....	12'0	13'2	...	...	...	...	...	...	3	2	6
St. John's	19'2	5'9	...	...	...	...	...	...	...	...	4
St. Silas'	14'8	11'6	...	2	...	...	...	...	...	2	8
St. Paul's	18'5	19'7	2	...	...	...	1	...	8	2	8
St. Peter's.....	27'1	23'9	...	...	...	...	...	1	3	1	11
St. Mary's.....	8'6	24'3	...	...	...	...	...	1	4	3	10
St. Matthew's	26'2	22'6	...	...	...	1	3	...	3	2	15
St. Thomas'	14'1	15'8	...	...	...	...	...	...	6	3	12
Park	23'4	22'2	2	...	...	...	...	...	4	3	11
St. Luke's.....	21'3	17'3	...	...	...	1	...	2	6	2	5
St. Mark's.....	19'5	8'5	...	...	...	...	...	1	3	1	3
St. Andrew's.....	19'6	14'4	...	...	...	...	...	1	2	4	5
Borough.....	18'5	16'6	4	2	...	2	4	6	2	54	25	118

ZYMOTIC DISEASES.

The Zymotic Death-rate during 1910 was 1.4 per 1,000, which shows a slight diminution on that rate for the year 1909.

The death-rates from the principal zymotic diseases per 1,000 living during 1910, in England and Wales, were as follows:—

England and Wales	0.99
77 Great Towns	1.23
136 Smaller Towns	0.88
England and Wales (less the 213 Towns)	0.74

TABLE XXIV.

	33 Large Towns.	Black- burn.
Seven Zymotic Diseases	1.26	1.40
Smallpox.....	0.001	0.007
Measles	0.27	0.28
Scarlet Fever	0.08	0.19
Whooping Cough	0.27	0.10
Typhoid Fever	0.05	0.06
Diarrhoea and Epidemic Enteritis	0.43	0.57
Diphtheria ...	0.13	0.16

Regarding the Zymotic Diseases which are compulsorily notifiable, it will be seen, on reference to Table XXVI., that 1,038 notifications were sent to me by medical practitioners during 1910. This is less by 253 than the number received during 1909.

Of these 1,038 notifications, 795, or 76.5 per cent., were Scarlet Fever.

The next most frequently notified diseases were, in order :— Diphtheria, Erysipelas, Enteric Fever, Puerperal Fever, and Smallpox. This order occurred during 1909 also.

Regarding the age-periods of these 1,038 notifications, 536 occurred between the ages of five and fifteen years, and 269 between the ages of one and five years.

The greatest number of notifications above the age of 25 years were Erysipelas.

The greatest amount of notifiable infection occurred in St. Mark's and St. Silas's Wards, and the least amount in St. Mary's and St. Luke's Wards.

NOTIFICATION FEES.

The total cost in fees paid to medical men for notifying cases of infectious diseases during 1910 was £135 10s.

This was £35 10s. 6d. less than the amount paid for this purpose during 1909.

TABLE XXV.

Shewing number of cases of Infectious Diseases notified from 1892 to 1910.

Disease.	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910
Smallpox	4	79	13	...	...	...	...	...	23	...	49	92	2	4	...	1	...	2	1
Scarlet Fever...	176	190	156	224	287	185	347	615	1476	1117	494	339	458	1578	849	544	595	1013	795
Diphtheria.....	3	2	38	31	25	15	77	229	334	284	83	132	60	157	166	150	100	102	96
Enteric Fever	79	161	129	119	143	179	228	233	163	131	127	97	111	90	82	61	85	69	46
Typhus .....	...	1	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...
Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	262	432	336	375	455	380	652	1078	1996	1532	753	660	631	1829	1097	756	780	1186	938

TABLE XXVI.

Cases of Infectious Disease notified during the Year 1910.

NOTIFIABLE DISEASE.	Cases notified in whole District.						Total Cases notified in each Locality.											Number of Cases removed to Hospital from each Locality.											Total Cases removed to Hospital.							
	At Ages—Years.						St. Stephen's	Trinity	St. Michael's	St. John's	St. Silas	St. Paul's	St. Peter's	St. Mary's	St. Matthew's	Park	St. Luke's	St. Mark's	St. Andrew's	St. Stephen's	Trinity	St. Michael's	St. John's	St. Silas	St. Paul's	St. Peter's	St. Mary's	St. Matthew's		St. Thomas	Park	St. Luke's	St. Mark's	St. Andrew's		
	At all Ages	Under 1	1 to 5	5 to 15	15 to 25	25 to 65																													65 and upwards	
Small-pox	1	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Cholera	96	...	34	50	4	8	...	6	3	4	5	3	14	3	3	5	4	7	4	22	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria	90	2	1	3	9	66	9	6	6	5	4	5	9	7	4	5	7	9	3	8	12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Membranous Group	795	4	231	469	65	26	...	94	54	56	55	108	55	30	22	46	58	26	30	107	54	68	42	33	40	39	30	24	20	41	35	24	26	66	42	530
Erysipelas	46	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Typhus Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Relapsing Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Continued Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	10	...	...	...	2	8	...	...	...	1	1	...	...	1	1	...	1	3	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTALS	1038	6	269	536	90	128	9	110	65	71	69	122	81	42	31	61	77	47	41	141	80	68	44	41	45	42	41	27	22	43	36	28	32	80	46	595

MEASLES.

Seven hundred and thirty-two cases of Measles were reported from the Schools during the year, compared with 1,470 cases during 1909, 419 cases during 1908, 864 cases during 1907, and 713 cases during 1906.

The reported cases and deaths occurred in the months, in the following numbers :—

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Cases Reported	5	24	50	143	171	122	51	...	5	60	26	75	732
Deaths ...	...	...	2	5	11	8	2	2	1	2	2	4	39

In 1896 there were 3 cases notified to each death.

.. 1897	..	13	..	..
.. 1898	..	9	..	..
.. 1899	..	17	..	..
.. 1900	..	24	..	..
.. 1901	..	15	..	..
.. 1902	..	15	..	..
.. 1903	..	18	..	..
.. 1904	..	40	..	..
.. 1905	..	24	..	..
.. 1906	..	11	..	..
.. 1907	..	19	..	..
.. 1908	..	28	..	..
.. 1909	..	35	..	..
.. 1910	..	18	..	..

DEATHS IN AGE PERIODS.

0 to 1	1 to 5	5 to 10	10 to 15	Total.
9	28	1	1	39

It will, therefore, be seen that Measles occurred in epidemic form during the months of April, May, and June. The worst of these months was May.

The death-rate from Measles during 1910 was 0.28, as compared with 0.30 in 1909, and 37 of the 39 deaths occurred below the age of five years.

249 cases were investigated by the Sanitary Inspectors, and 129 cases by the Lady Health Visitors, making a total of 378 cases investigated during 1910.

It was found that 185 cases were attended by a medical man, or 48.9 per cent.

The remaining 193 cases had no medical attendant.

With reference to the 129 cases investigated by the Lady Health Visitors, 70 were males and 59 were females. In 53 cases a medical man was in attendance, but in the remaining 76 cases no medical man was called in, although the parents were advised to do so.

In 44 cases isolation was carried out, but in the remaining 85 cases the isolation of the patient was very unsatisfactory.

The following Schools were closed during the year 1910, on account of Measles :—

Mar. 1—St. Joseph's Infants' School, closed until after the Easter Holidays.

May 3—Accrington Road Infants' School, closed until after the Whitsuntide Holidays.

„ 3—St. Thomas's Infants' School, closed until after the Whitsuntide Holidays.

„ 27—St. Silas's Infants' School, closed until June 20th.

„ 27—St. Matthew's Infants' School, closed until June 20th.

DEATHS AND DEATH RATES FROM MEASLES
1871—1910.

TABLE XXVII.

Year	Total Deaths	Death Rate	Year	Total Deaths	Death Rate
1871	61	0·8	1890	15	0·1
1872	31	0·3	1891	173	1·4
1873	119	1·4	1892	8	0·06
1874	142	1·7	1893	140	1·1
1875	29	0·3	1894	13	0·01
1876	167	1·9	1895	324	2·5
1877	48	0·5	1896	36	0·2
1878	25	0·2	1897	143	1·0
1879	37	0·3	1898	50	0·38
1880	74	0·7	1899	40	0·29
1881	9	0·08	1900	76	0·55
1882	167	1·5	1901	94	0·72
1883	1	0·009	1902	77	0·58
1884	92	0·8	1903	53	0·40
1885	1	0·009	1904	60	0·45
1886	195	1·7	1905	42	0·31
1887	76	0·6	1906	63	0·47
1888	117	1·0	1907	45	0·33
1889	188	1·6	1908	15	0·11
			1909	41	0·30
			1910	39	0·28

SCARLET FEVER.

The number of cases notified during the year 1910 was 795, compared with 1,013 cases during 1909, 595 during 1908, and 544 during 1907.

The following were the cases and deaths in age-periods during 1910 :—

Age period	0-1	1-5	5-10	10-15	15-20	20-25	25-35	35-45	45 & up
Cases ...	4	231	360	109	44	21	22	4	...
Deaths ...	1	18	6	2	...	...	...	...	...

As in previous years, these figures show :—

- (1) That during 1910 the incidence and mortality from Scarlet Fever below the age of one year were small.
- (2) That this disease is most prevalent between the ages of one and five, and five and ten years (591 cases out of 795 cases, or 74.3 per cent.).
- (3) That also between the two last-named age-periods the greatest number of deaths occurred (24 deaths out of 27 deaths from this disease, or 88.8 per cent.).
- (4) That there is a diminished incidence and mortality after the age of ten years.

The following are the cases, arranged in months and quarters for 1910, and compared with similar cases for 1909 :—

	Jan.	Feb.	Mar.	April	May.	June.
1910 :	52	41	63	57	65	74
1909 :	75	79	106	101	107	99

	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910 :	81	60	54	59	102	87
1909 :	84	53	71	80	80	78

	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.
1910 :	156	196	195	248
1909 :	260	307	208	238

It will, therefore, be noticed that the greatest amount of Scarlet Fever occurred during the Fourth Quarter of 1910, and that the increase began in November.

This caused considerable work in the Health Department during the last quarter of the year.

Infection, for a time, spread very quickly amongst younger children in connection with juvenile gatherings and certain Schools in St. Silas's Ward.

The percentage of cases of this disease removed to the Hospital in the different months was as follows:—

Jan.	Feb.	Mar.	April.	May	June.
67.3	51.2	74.6	70.1	70.7	71.6
July.	Aug.	Sept.	Oct.	Nov.	Dec.
67.9	68.3	68.5	79.6	53.9	60.9

Also the number of cases in individual houses was as follows:—

In 2 houses there were 5 cases.

„ 6	„ „	4 „
„ 24	„ „	3 „
„ 91	„ „	2 „
„ 502	„	was 1 case.

Three cases occurred in the Infirmary.

Two cases occurred in the Fever Hospital.

No milk supply had any effect in causing the disease to spread during the year.

The usual preventive measures were adopted in every case of Scarlet Fever, which was notified during the year, and these measures were described fully in my Annual Health Report for 1905.

The marked diminution in Scarlet Fever, which I expected would occur during 1910, did not take place, although there were 218 cases less during 1910, than there had been during 1909.

I still expect, however, that there will be a further diminution in the amount of Scarlet Fever during 1911.

The following Table indicates the weekly and daily average number of notifications of Scarlet Fever throughout the year.

TABLE XXVIII.
Analysis of Cases of Scarlet Fever.

Week Ending	No. of Cases Notified Weekly	Total Cases Notified during Year	Average Cases Notified Weekly	Average Cases Notified Daily	Week Ending	No. of Cases Notified Weekly	Total Cases Notified during Year	Average Cases Notified Weekly	Average Cases Notified Daily
Jan. 8	13	13	13'0	1'6	May 9	18	377	13'9	2'0
" 15	8	21	10'5	1'4	" 16	18	395	14'1	2'0
" 22	21	42	14'0	1'9	" 23	17	412	14'2	2'0
" 29	6	48	12'0	1'7	" 30	21	433	14'4	2'0
Feb. 5	10	58	13'6	1'6	Aug. 6	11	444	14'3	2'0
" 12	14	72	12'0	1'6	" 13	12	456	14'2	2'0
" 19	11	83	11'8	1'6	" 20	9	465	14'1	2'0
" 26	7	90	11'2	1'6	" 27	15	480	14'1	2'0
Mar. 5	12	102	11'3	1'6	Sept. 3	21	501	14'2	2'0
" 12	13	115	11'5	1'6	" 10	14	515	14'3	2'0
" 19	19	134	12'1	1'7	" 17	9	524	14'2	2'0
" 26	11	145	12'1	1'7	" 24	13	537	14'1	2'0
April 2	17	162	12'4	1'7	Oct. 1	10	547	14'0	2'0
" 9	10	172	12'3	1'7	" 8	10	557	13'9	2'0
" 16	21	193	12'8	1'8	" 15	13	570	13'9	2'0
" 23	8	201	12'6	1'8	" 22	22	592	14'1	2'0
" 30	12	213	12'5	1'7	" 29	11	603	14'0	2'0
May 7	10	223	12'4	1'7	Nov. 16	16	619	14'0	2'0
" 14	18	241	12'6	1'8	" 12	15	634	14'0	2'0
" 21	17	258	12'9	1'8	" 19	3	670	14'5	2'0
" 28	18	276	13'1	1'8	" 26	20	690	14'6	2'1
June 4	10	286	13'0	1'8	Dec. 3	28	718	14'9	2'1
" 11	18	304	13'2	1'8	" 10	22	740	15'1	2'1
" 18	19	323	13'4	1'9	" 17	19	759	15'1	2'1
" 25	17	340	13'6	1'9	" 24	19	778	15'2	2'1
July 2	19	359	13'8	1'9	" 31	17	795	15'3	2'1

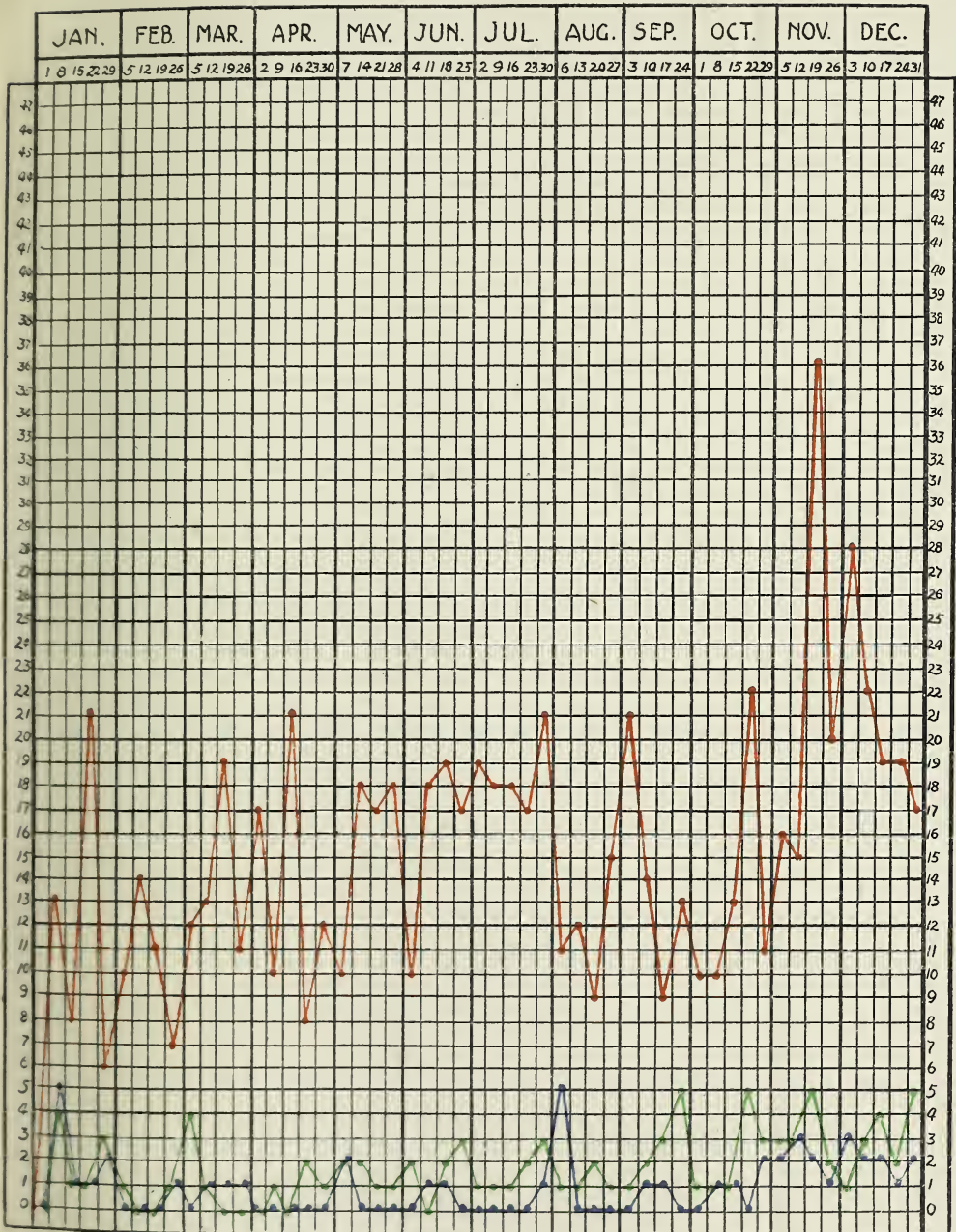
SCARLET FEVER.

TABLE XXIX.

Year.	Cases notified.	Deaths.	Mortality per 1,000 population.
1877	.....	38	'42
1878	.....	345	3'39
1879	...	175	1'77
1880	. ...	74	'72
1881	103	23	'22
1882	331	47	'44
1883	275	41	'38
1884	211	45	'41
1885	181	23	'20
1886	422	26	'23
1887	1695	157	1'38
1888	829	175	1'51
1889	737	123	1'05
1890	324	32	'26
1891	196	13	'10
1892	176	13	'10
1893	190	4	'03
1894	156	10	'07
1895	224	8	'06
1896	287	9	'06
1897	185	7	'05
1898	347	16	'12
1899	615	14	'10
1900	1476	83	'65
1901	1117	58	'45
1902	494	31	'23
1903	339	13	'09
1904	458	13	'09
1905	1578	76	'57
1906	849	33	'24
1907	544	21	'15
1908	595	20	'14
1909	1013	53	'38
1910	795	27	'19

CHART 2.

Infectious Diseases.



RED S.F.

GREEN-DIPH.

BLUE T.F.



TYPHOID OR ENTERIC FEVER.

The number of cases notified during the year was 46, compared with 69 during 1909, 85 during 1908, and 61 during 1907.

This represents the lowest annual number of cases of Typhoid Fever notified in any year in the history of Blackburn. The marked decrease in this disease in the town during the last eight years is extremely satisfactory.

I feel sure that the active preventive measures which have been carried out for many years continuously in this town, are now showing results in this striking manner.

Out of the 46 notified cases of Typhoid Fever, five cases occurred at the Blackburn Union Workhouse, who contracted the disease outside the Borough.

There were thus only 41 cases of Typhoid Fever in which infection was probably contracted within the Borough during 1910.

There were nine deaths during 1910, compared with 18 during 1909, 14 during 1908, and 13 during 1907.

The cases and deaths occurred in the following age-periods :—

Age-Periods.	Cases Notified.	Deaths.	Case Mortality. Per Cent.
0—1	0	0	0.0
1—2	1	0	0.0
2—3	1	0	0.0
3—4	1	0	0.0
4—5	0	0	0.0
5—6	0	0	0.0
6—7	2	0	0.0
7—8	0	0	0.0
8—9	3	0	0.0
9—10	1	0	0.0
10—15	8	2	25.0
15—20	6	1	16.6
20—25	4	2	50.0
25—35	7	1	14.2
35—45	8	1	12.5
45—55	3	2	66.6
55 and up	1	0	0.0
Total	46	9	19.5

Out of these 46 cases notified during 1910, five had eaten mussels, and five had eaten cockles.

There is no reason to believe that the consumption of shell-fish had aided the spread of Typhoid Fever in Blackburn during the year 1910.

The districts in which these 46 cases occurred will be seen by reference to the map at the end of the Report.

The drains at the 36 houses where these 46 cases occurred were tested. Defects were found at 22 houses, and steps were taken immediately to remedy the same.

The type of sanitary convenience at the infected houses was as follows :—

Water Closets.	Pail Closets.	Middens.
Fresh Water.	Slop Water.	
20	4	12
		—

The following is an analysis of the Milk Supplies at the various houses at which Typhoid Fever occurred during 1910 :—

26 milk supplies with 1 case of Enteric in each supply.

3 „ „ 2 cases „ „ „

The following is an analysis of the Water Supply to the various houses at which Typhoid Fever occurred during 1910 :—

Fishmoor	Guide	Audley
Reservoir.	Reservoir.	Reservoir.
32	7	7

TABLE XXX.

TYPHOID FEVER IN WARDS AND QUARTERS DURING 1910.
(NOTIFICATIONS).

Wards.	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Totals
St. Stephen's	2	1	1	...	4
Trinity .....	...	...	...	2	2
St. Michael's	1	...	...	4	5
St. John's	1	...	...	3	4
St. Silas' .....	...	1	5	...	6
St. Paul's .....	...	...	...	2	2
St. Peter's .....	...	1	...	...	1
St. Mary's .....	...	...	...	1	1
St. Matthew's .....	...	...	...	5	5
St. Thomas'	5	1	...	1	7
Park	1	...	...	1	2
St. Luke's	1	...	1	2	4
St. Mark's	1	...	...	1	2
St. Andrew's .....	...	...	1	...	1
Totals	12	4	8	22	46

The monthly notifications of this disease during 1910 were as follows :—

Jan.	Feb.	March.	April.	May.	June.
9	1	2	—	2	2
July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	5	2	4	9	9
Total : 46.					

Eighty-four Specimens of Blood were examined during the year for Typhoid bacilli, with the following results :—

Positive	18
Negative	66

The Cases notified in the four quarters for the years 1899 to 1910 were as follows :—

	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.
1899	84	26	42	81
1900	34	25	27	77
1901	35	24	29	43
1902	33	26	18	50
1903	39	23	16	19
1904	26	15	13	57
1905	20	18	10	42
1906	25	11	3	43
1907	20	10	12	19
1908	18	20	12	35
1909	27	9	10	23
1910	12	4	8	22

Therefore the fourth quarter of the year has generally had the heaviest incidence of Typhoid Fever.

TYPHOID FEVER.

TABLE XXXI.

Year	Cases Notified.	Deaths.	Mortality per 1,000 Population.
1881	289	68	·65
1882	210	50	·47
1883	442	84	·78
1884	268	67	·61
1885	130	28	·25
1886	105	34	·30
1887	153	41	·36
1888	146	39	·33
1889	111	20	·17
1890	121	37	·31
1891	106	24	·19
1892	79	32	·26
1893	161	27	·22
1894	129	32	·26
1895	119	28	·22
1896	143	33	·26
1897	179	35	·28
1898	228	30	·23
1899	233	40	·31
1900	163	30	·23
1901	131	17	·13
1902	127	23	·17
1903	97	15	·11
1904	111	21	·15
1905	90	15	·11
1906	82	14	·10
1907	61	13	·09
1908	85	14	·10
1909	69	18	·13
1910	46	9	·06

The following Table gives particulars of all the cases of Typhoid Fever which were notified during the year 1910:—

TYPHOID FEVER.—Table XXXII.

Closet
Accommodation

No.	Age	Days ill before notification after 1st case.	Cases of Typhoid occurring in notified same house	ACCOMMODATION					CONDITION OF			Other Remarks.
				W.C.	Pail	Asphalt	Slopewater	Yard.	Back road.	Drainage.		
1	8	This case occurred at the Blackburn Union Workhouse.
2	6	...	...	...	...	...	...	...	...	...	...
3	18	...	...	...	...	...	...	...	...	...	...
4	22	...	...	...	...	...	...	...	...	...	...
5	44	...	...	...	...	...	...	...	...	...	...
6	11	16	1	Flagged	Paved	Good	...	Do.
7	2½	12	...	...	1	...	...	Flagged and cobbled	Paved	Defective	...
8	58	7	...	1	...	...	...	Flagged and cobbled	Paved	Defective	...
9	10	18	...	...	1	...	...	Flagged and cobbled	Paved	Defective	...
10	15½	32	...	1	...	...	...	Flagged	Unpaved	Good	...

Closet Accommodation											
No.	Age.	Days ill before notification, same house or after 1st case.	Cases of Typhoid occurring in same house	W.C.	Pall.	Asphalt.	Slopewater	CONDITION OF			Other Remarks.
								Yard.	Back road.	Drainage.	
11	10	11	...	...	1	...	...	Flagged and cobbled	Paved	Defective	This case occurred at the Blackburn Union Work-house.
12	43	10	...	...	...	...	1	Flagged	Unpaved	Defective	
13	44	...	...	...	...	...	...	...	...	...
14	25	17	...	...	1	...	...	Flagged	Paved	Defective	
15	38	19	...	1	...	...	...	Flagged and gardened	Unpaved	Good	
16	22	5	...	...	...	...	1	Flagged and cobbled	Cobbled	Defective	
17	27	11	...	1	...	...	...	Flagged and cobbled	Unpaved	Good	
18	8	18	...	1	...	...	...	Flagged	Paved	Defective	
19	10½	8	...	1	...	...	...	Flagged	Paved	Good	
20	9	11	...	1	...	...	...	Flagged	Paved	Good	

This case occurred at the Blackburn Union Work-house.

Closet Accommodation											
No.	Age.	Days ill before notification after 1st case.	Cases of Typhoid occurring in same house.	W.C.	Pail.	Asphalt.	Stopwater.	CONDITION OF			Other Remarks
								Yard.	Back road.	Drainage.	
21	13 $\frac{3}{4}$	20	...	...	1	...	...	Flagged	Paved	Defective	
22	10	11	..	...	1	...	...	Flagged and gardened	Paved	Good	
23	49	3	...	1	...	...	...	Flagged	Paved	Good	
24	15	7	...	1	...	...	...	Flagged and cobbled	Paved	Defective	
25	21	9	...	1	...	...	...	Flagged	Paved	Defective	
26	34	8	...	1	...	...	...	Flagged and cobbled	None	Good	
27	11	11	...	...	1	...	...	Flagged	Unpaved	Defective	
28	17	17	...	1	...	...	...	Flagged	Cobbled	Defective	
29	31	21	...	1	...	...	...	Flagged and cobbled	Paved	Defective	
30	36	9	...	1	...	...	...	Flagged and cobbled	Paved	Defective	

Closest Accommodation											
No.	Age	Days ill before notification after 1st case	Cases of Typhoid occurring in same house	W.C.	Pall.	Ashpt.	Slopwater	CONDITION OF			Other Remarks.
								Yard.	Back road.	Drainage.	
31	22	This case occurred at the Blackburn and East Lancashire Infirmary.
32	3	12	Two cases notified 28 days afterwards.	...	1	...	...	Flagged and cobbled	Paved	Defective
33	33	8	...	1	...	...	...	Flagged	Paved	Good
34	25	14	...	1	...	...	...	Flagged	None	Defective
35	29	14	...	...	1	...	...	Cobbled	Paved	Defective
36	51	10	...	1	...	...	...	Flagged	Paved	Good
37	6	9	...	...	1	...	...	Flagged	Paved	Good
38	8	18	Another case notified 11 days afterwards.	1	...	...	...	Flagged	Paved	Defective
39	42	12	...	...	...	...	1	Flagged	Paved	Good

Closet
Accommodation

No.	Age.	Days ill before notifi- cation	Cases of Typhoid occurring in same house after 1st case.	W.C.	Pail.	Ashpit.	Slopwater	CONDITION OF			Other Remarks.
								Yard.	Back road.	Drainage.	
40	17	17	...	1	...	...	...	Flagged	Paved	Defective	
41	52	8	...	1	...	...	...	Cobbled	Cobbled	Defective	
42	19	10	...	...	1	...	...	Flagged and cobbled	None	Good	
43	13	15	...	1	...	...	...	Flagged and gardened	Paved	Defective	

DIPHTHERIA AND MEMBRANOUS CROUP.

The number of cases notified during the year was 96, compared with 102 in 1909, 100 in 1908, and 150 in 1907.

There were 22 deaths out of the 96 cases, or a case mortality of 22.9 per cent., compared with a case mortality of 17.6 per cent. during 1909.

The death-rate from Diphtheria during 1910 was 0.16 per 1,000, compared with a death-rate of 0.13 during 1909.

The highest incidence and mortality occurred between the ages of one and ten years. Beyond the age of 20 years the incidence and mortality were small.

The following are the cases and deaths in age-periods :—

Age Periods in Years.	Notified Cases.		Deaths.	
0—1	0	0	0	
1—2	3	34	1	12
2—3	1		2	
3—4	11		3	
4—5	19		6	
5—6	10	38	2	8
6—7	8		2	
7—8	7		2	
8—9	9		2	
9—10	4		0	
10—15	12	12	1	1
15—20	1	1	0	0
20—25	3	3	0	0
25—35	6	6	1	1
35 & upwards	2	2	0	0
	<hr/> 96		<hr/> 22	

The following are the cases of Diphtheria, arranged in months for the years 1909 and 1910 :—

	Jan.	Feb.	Mar.	April.	May.	June.
1910 :	9	2	5	4	6	8
1909 :	19	5	12	7	11	11

	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910 :	7	6	11	10	13	15
1909 :	5	2	7	14	3	6

Total (1910), 96. Total (1909), 102.

The following are the cases of Diphtheria, arranged in the four quarters of the year, since 1900 :—

Year.	1st Quarter	2nd Quarter	3rd Quarter.	4th Quarter
1900	92	76	54	112
1901	117	70	55	42
1902	19	17	20	27
1903	56	29	30	17
1904	22	12	7	19
1905	27	29	36	65
1906	51	28	46	41
1907	69	26	24	31
1908	23	23	18	36
1909	36	29	14	23
1910	16	18	24	38

Thus the greatest number of cases occurred during the last half of the year 1910.

These 96 cases occurred at 86 houses. Four cases occurred at the Fever Hospital.

The Drains at all these houses were tested. Defects were found at 46 houses, and steps were taken immediately to remedy the same.

Any other insanitary conditions found were also remedied.

The sanitary conditions at the infected houses were as follows :—

At 50 houses there were water-closets.

„ 10 „ „ slop water-closets.

„ 25 „ „ pail-closets.

„ 1 house there was an earth-closet.

Of the Back-yards at these houses :

52 were flagged.

17 „ „ flagged and cobbled.

4 „ „ flagged and gardened.

3 „ „ cobbled.

7 „ „ asphalted.

1 was part flagged.

1 „ „ paved.

1 „ „ bricked.

Of the Back-road and Passages :

59 were paved.

3 „ „ flagged.

2 „ „ part flagged.

2 „ „ cobbled.

16 „ „ unpaved.

4 houses had no Back-road or Passage.

At 24 houses the Back-yards were out of repair, and notices were served on the owners to remedy the same.

The following Analysis of the notified cases of Diphtheria in association with a bacteriological examination of throat swabs is interesting :—

The notified cases from which swabs had been taken, and which, on examination, proved to contain Diphtheria

Bacilli, were 20. This number includes one swab which was taken in order to ascertain if the throat was free from disease.

The notified cases from which swabs had been taken, and which, on examination, proved not to contain Diphtheria Bacilli, were 4.

The notified cases from which no swab had been taken were 69.

In 23 cases a swab was taken before the case was notified, and of these 19 were positive and 4 were negative.

In 9 cases a second swab was taken before the house was disinfected.

In 28 cases no swab was taken before disinfection.

42 cases were removed to Hospital.

In one case Diphtheria Bacilli was found in second and subsequent swabs submitted.

During the year 1910, 250 swabs were taken altogether, apart from those taken at the Fever Hospital.

Four cases occurred in Hospital which have not been counted in the above figures.

Out of the 96 cases of Diphtheria notified during 1910, anti-toxin was injected in 56 cases.

This is a most valuable remedy, especially when used during the first three days of the illness. Antitoxin is supplied free by the Corporation, as it is a useful public health preventive measure.

The amount distributed during the year was 168 bulbs of 4,000 units each, as follows :—

Fever Hospital	70
Medical Men (Police Stations)	35
Medical Men (Health Office)	63

The following is a copy of a Local Government Board Order relating to the Provision, etc., of Diphtheria Anti-toxin, which was issued during August, 1910:—

(51,568)

15th August, 1910.

Provision, etc., of Diphtheria Anti-toxin. England and Wales (excluding London).

To the Council of every County Borough;

To the Council of every Urban District;

To the Council of every Rural District;

To every Medical Officer of Health of any of the Councils aforesaid;

And to all others whom it may concern;

Whereas under Section 133 of the Public Health Act, 1875, any local authority (including the Council of every County Borough, the Council of every Urban District, and the Council of every Rural District) may, with the sanction of the Local Government Board, themselves provide or contract with any person to provide a temporary supply of medicine and medical assistance for the poorer inhabitants of their District;

And whereas it is expedient that, subject as hereinafter stated, the sanction of the Local Government Board should be given under the above-cited enactment to the provision by any of the said Councils of a temporary supply of the medicine known and hereinafter referred to as "diphtheria anti-toxin," and of medical assistance in connection with the temporary supply of diphtheria anti-toxin;

And whereas in pursuance of the enactments in that behalf, the Local Government Board by a General Order dated the 23rd day of March, 1891, prescribed in relation to Medical Officers of Health appointed by the Councils of County Boroughs and by

the Councils of Urban Districts, and by another General Order of the same date prescribed in relation to Medical Officers of Health appointed by the Councils of Rural Districts. Regulations with respect to the duties of the said Medical Officers of Health, and also with respect to their salaries in every case in which one-half of the salary of a Medical Officer of Health is intended to be payable by a County Council or by the Council of a County Borough under the Local Government Act, 1888 :

And whereas, with respect to the said Medical Officers of Health, it is expedient that further provision should be made with regard to the following matters ; that is to say,

(a) the duties of the said Medical Officers of Health in connection with the use of diphtheria anti-toxin in cases of disease, as well for the prevention of disease as for the prevention of its extension ; and

(b) the compensation of the said Medical Officers of Health for the discharge of the said duties in every case in which one-half of the salary of a Medical Officer of Health is intended to be payable as aforesaid ;

Now, therefore, we, the Local Government Board, in the exercise of our powers in that behalf, do hereby order as follows :—

ARTICLE I.—We sanction the provision by the Council of every County Borough, the Council of every Urban District, and the Council of every Rural District, or their contracting with any person for the provision, in pursuance of Section 133 of the Public Health Act, 1875, of a temporary supply of diphtheria anti-toxin, and of medical assistance in connection with the temporary supply of diphtheria anti-toxin, for the poorer inhabitants of their District, subject to the following condition, that is to say,—

The arrangements with respect to the keeping, distribution, and use of the diphtheria anti-toxin shall be made in accordance with the advice of the Medical Officer of Health.

ARTICLE II.—The duties assigned to the Medical Officer of Health by such one of the two General Orders dated the Twenty-third day of March, One thousand eight hundred and ninety-one, as applies to his case, or other the Regulations for the time being issued by us and superseding the Regulations prescribed by the said Orders, shall be deemed to extend to and to include all action by the Medical Officer of Health in the execution of this Order.

ARTICLE III.—Where one-half of the salary of a Medical Officer of Health is intended to be payable by a County Council or by the Council of a County Borough under the Local Government Act, 1888, such one of the two General Orders dated the Twenty-third day of March, One thousand eight hundred and ninety-one, as applies to his case, or other the Regulations for the time being issued by us and superseding the Regulations prescribed by the said Orders, shall apply and have effect as if the Regulations thereby prescribed included a provision authorising the Council of the District, or requiring them at our direction, to pay, from time to time, to the Medical Officer of Health, in addition to the salary or other compensation payable under the said Regulations, a reasonable compensation for all action by the Medical Officer of Health in the execution of this Order.

ARTICLE IV.—This Order may be cited as “The Diphtheria Anti-toxin (Outside London) Order, 1910.”

Given under the Seal of Office of the Local Government Board, this Fifteenth day of August, in the year One thousand nine hundred and ten.

JOHN BURNS.

H. C. Monro, Secretary.

Date of publication in the London Gazette, 16th August, 1910.

TABLE XXXIII.

Cases of Diphtheria Notified in Wards.

WARDS.	1902	1903	1904	1905	1906	1907	1908	1909	1910
St. Stephen's..	4	13	3	9	10	7	7	8	6
Trinity	4	10	6	16	20	13	2	3	3
St. Michael's..	7	3	1	20	19	14	4	10	4
St. John's	2	9	5	16	11	23	14	8	5
St. Silas'	7	32	14	11	9	20	24	13	3
St. Paul's	6	7	3	11	15	6	12	8	14
St. Peter's.....	9	1	4	6	1	3	4	4	3
St. Mary's.....	7	2	5	18	14	12	1	3	3
St. Matthew's..	7	3	4	13	12	10	5	9	5
St. Thomas' ...	11	16	...	8	6	12	3	3	4
Park	10	9	5	8	10	10	8	6	7
St. Luke's.....	2	2	7	5	6	5	3	5	4
St. Mark's.....	4	9	3	5	6	5	7	4	22
St. Andrew's...	3	16	...	11	27	10	6	18	13
Totals...	83	132	60	157	166	150	100	102	96

CHART 3.—DIPHTHERIA.

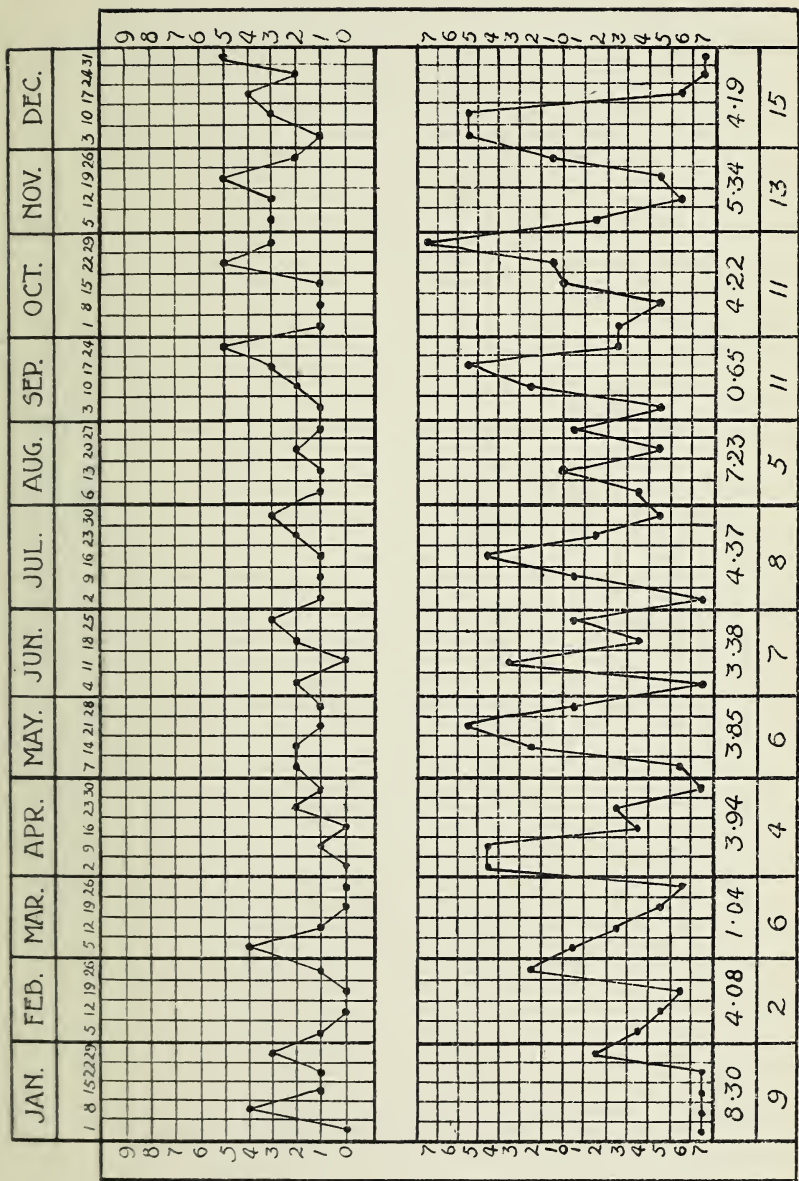
NOTIFIED
CASES OF
DIPHTHERIA

E

DIRECTION
OF WIND

W

RAINFALL IN
EACH MONTH.
CASES OF DIPHTHERIA
IN EACH MONTH.



DIPHTHERIA.

TABLE XXXIV.

Year.	Cases Notified.	Deaths.	Mortality per 1,000 Population.
1882	.....	2	0·01
1883	.....	2	0·01
1884	.. ...	1	0·009
1885	.....	1	0·009
1886	.....	...	0·00
1887	.....	1	0·008
1888	.....	1	0·008
1889	4	4	0·03
1890	5	4	0·03
1891	1	...	0·00
1892	3	1	0·008
1893	3	2	0·01
1894	40	14	0·11
1895	31	7	0·05
1896	25	10	0·08
1897	15	5	0·04
1898	77	32	0·25
1899	229	74	0·58
1900	334	91	0·11
1901	284	62	0·48
1902	83	23	0·17
1903	132	26	0·19
1904	60	11	0·08
1905	157	33	0·24
1906	166	26	0·19
1907	150	17	0·12
1908	100	12	0·08
1909	102	18	0·13
1910	96	22	0·16

DIARRHŒA AND EPIDEMIC ENTERITIS.

The number of deaths from Diarrhœa and Epidemic Enteritis during 1910 was 79.

This is a very satisfactory record.

When the reading of the 4ft. thermometer exceeds 56deg. Fahrenheit, a condition arises which is probably associated with an increase in the number of Diarrhœa deaths.

The condition is also rendered still more favourable for the spread of this disease when flies and dust abound, and when food putrefies rapidly.

There is no doubt that very great dangers accompany the wanderings of flies. It is, therefore, extremely important that all material which affords breeding facilities for the flies, should be removed as speedily as possible. Such material includes collections of horse manure and organic refuse generally, especially when such collections are allowed to remain near dwelling-houses.

Fortunately, during 1910, the critical reading of the thermometer named above was only just exceeded, and it seemed as if there were less flies also.

I believe that these conditions assisted in producing the low death-rate from Diarrhœa during the year, and consequently had an effect in producing a low Infantile death-rate, in spite of the fact that 19 more deaths occurred from this cause during 1910 than during 1909.

Any year, however, we may be faced with a hot summer, many flies, much dust, and pollution of food, particularly milk, and these conditions will probably be associated with an increase in the incidence and mortality of Diarrhœa.

It is, therefore, extremely important that no efforts should be spared in completing the abolition of the old-fashioned privy-middens, the flagging of backyards, so that soil pollution may be lessened, and the demolition of erections in yards when such are a nuisance.

Also, educational measures in "infant feeding" and "essentials of domestic hygiene" should be pursued vigorously.

A reference to Table VIII. will show that the majority of deaths from Diarrhœa and Epidemic Enteritis occurred, as usual, below the age of one year.

I have again made inquiries at houses where deaths from Diarrhœa occurred, according to age, number of days ill before death, occupation of mother, feeding of child, means of storing milk and food, sanitary accommodation, condition of yard and back-passage, and structures in the yard.

The following pages contain a summary of the results of these visits.

As to the number of days the children were ill before death occurred, it was found that, of 58 children who died from Diarrhœa, under one year of age :

4	were ill	1	day	before death.
3	"	2	days	before death
5	"	3	"	"
5	"	4	"	"
3	"	5	"	"
1	was ill	6	"	"
11	were ill	7	"	"
1	was ill	9	"	"
3	were ill	10	"	"
1	was ill	11	"	"
9	were ill	2	weeks	"

5 were ill 3 weeks before death.

3 „ 4 „ „

1 was ill 5 „ „

1 „ 6 „ „

2 were ill 2 months „

As to the occupations of Mothers, the following was found :—

40 House duties.

10 Weavers.

4 Winders.

2 Cardroom-hands.

1 Warper.

1 Firelight-maker.

As to the method of feeding, it was found that—

36 were fed with hygienic bottle.

2 „ „ hygienic and long-tube bottle.

11 „ „ long-tube bottle.

5 „ „ spoon.

3 „ on the breast.

1 was fed partially on the breast and partially with hygienic bottle.

11 of these children were nursed out.

The sanitary conveniences were as follows :—

At 30 houses there were water-closets.

„ 23 „ „ pail-closets.

„ 4 „ „ slop-water closets.

„ 1 house there was a privy-midden.

Of the Backyards at these houses—

34 were flagged.

8 „ flagged and cobbled.

4 „ paved.

3 „ cobbled.

- 2 were flagged and gardenened.
- 2 „ flagged, cobbled and gardenened.
- 1 was partly cobbled.
- 1 „ partly paved.
- 1 „ flagged and paved.
- 2 were unflagged.

Of the back-roads and passages—

- 39 were paved.
- 3 „ flagged.
- 3 „ unpaved.
- 5 „ cobbled.
- 1 was flagged and paved.
- 7 had no back-road or passage.

The condition of the houses was as follows:—

- 35 were clean.
- 20 were fair.
- 3 were dirty.

TABLE XXXV.

No.	Age.	Days ill before death.	Work of mother.	If returned to work since birth of child.	Feeding of child at death.	Breast fed how long from birth.	Means of storage of milk and food.	Sanitary accommodation.	Condition of yard.	Condition of back road.	Structures in yard.
1	5 months	2 weeks	...	...	Breast	5 months	scullery	W.C.	Flagged and cobbled	Paved	...
2	2 months	2 weeks	Weaver	2 months	Breast Hygienic Bottle (2)	2 months	Shelf in scullery	Pail	cobbled	Paved	...
3	7 months	10 days	...	...	Tube-bottle	3 months	Table in scullery	W.C.	Flagged Cobbed and Gardened	Unpaved	...
4	4 months	7 days	...	...	Hygienic Bottle	...	kitchen	W.C.	Flagged	Paved and Flagged	Old Pail Closet
5	1 month	10 days	...	...	Cup and spoon	...	In pantry	W.C.	Paved	Cobbled	...
6	2 months	1 day	...	...	Hygienic Bottle	1 month	Table in scullery	W.C.	Flagged	Paved	...
7	2 months	1 day	...	...	Hygienic bottle	1 month	Table in scullery	W.C.	Flagged	Paved	...
8	7 months	4 days	...	...	Hygienic bottle	...	Table in scullery	W.C.	Flagged	Paved	...
9	3 months	3 days	...	...	Breast	3 months	Table in scullery	Pail	Flagged	Paved	...
10	8 months	3 weeks	Weaver	3 months	Tube-bottle	3 months	Table in scullery	Pail	Flagged	Paved	...

TABLE XXXV.—continued.

No.	Age.	Days ill before death.	Work of mother.	If returned to work since birth of child.	Feeding of child at death.	Breast fed how long from birth.	Means of storage of milk and food.	Sanitary accommodation.	Condition of yard.	Condition of back passage.	Structures in yard.
11	11 months	5 days	Winder	2 months	Cup & Spoon	10 months	In living kitchen (uncovered)	W.C.	Partly paved	Paved	...
12	10 months	1 month	...	...	Hygienic bottle	6 months	...	W.C.	Flagged and cobbled	Paved	...
13	3 months	1 week	...	...	Breast	3 months	Scullery	Pail	Flagged and cobbled	Paved	..
14	10 months	2 months	...	...	Hygienic bottle	1 month	Cupboard in scullery	W.C.	Flagged	Paved	..
15	9 months	4 days	Winder	2 months	Tube bottle(2)	...	Cupboard in scullery	W.C.	Flagged and cobbled	Cobbled	...
16	11 months	1 week	...	...	Hygienic Bottle (2)	3 months	Scullery (covered)	W.C.	Flagged and cobbled	Flagged	...
17	9 months	3 days	Weaver	3 months	Hygienic bottle	...	Scullery	W.C.	Flagged	None	...
18	11 months	7 days	...	...	Tube bottle(2)	10 weeks	Scullery	Pail	Paved	None	...
19	9 months	6 days	...	...	Hygienic bottle (2)	10 days	Cupboard in scullery	Pail	Partly cobbled	Flagged	...
20	5 months	5 weeks	Winder	3 months	Hygienic bottle (2)	2 weeks	Shelf in kitchen	Pail	Flagged Cobbled and garuened	Paved	...

TABLE XXXV.—continued.

No.	Age.	Days ill before death.	Work of mother.	If returned to work since birth of child.	Feeding of child at death.	Breast fed how long from birth.	Means of storage of milk and food.	Sanitary accommodation.	Condition of yard.	Condition of back passage.	Structures in yard.
21	10 months	6 weeks	Weaver	4 months	Hygienic Bottle (2)	3 months	Kitchen	W.C.	Flagged	Paved	...
22	5 months	3 weeks	...	...	Tube Bottle and Hygienic Bottle	3 weeks	Shelf in scullery	W.C.	Flagged and Cobbled	Paved	...
23	1 month	3 days	Weaver	...	Hygienic Bottle	...	Scullery	Pail	Paved	None	...
24	1 month	4 days	...	...	Hygienic Bottle	1 month (partially)	Cupboard in shop	W.C.	Cobbled	Unpaved	...
25	5 months	3 days	Firelight Maker	1 month	Hygienic Bottle	...	Under slop-stone	Pail	Flagged	Paved	...
26	2 months	5 days	...	...	Hygienic Bottle	...	Scullery	Pail	Flagged and Gardened	Paved	...
27	4 months	4 weeks	Weaver	3 months	Hygienic Bottle (2)	5 weeks	Scullery	W.C.	Flagged	Paved	...
28	4 months	2 days	Weaver	...	Cup & Spoon	5 weeks	Scullery (uncovered)	Pail	Flagged	Flagged	...
29	1 month	1 week	...	...	Tube Bottle (2)	...	Scullery (uncovered)	W.C.	Flagged	Cobbled	Rabbit Hutch
30	6 months	7 days	...	...	Hygienic Bottle (2)	5 weeks	Front room	Pail	Paved	Paved	...

TABLE XXXV. continued.

No.	Age.	Days ill before death.	Work of mother.	If returned to work since birth of child.	Feeding of child at death.	Breast fed how long from birth.	Means of storage of milk and food.	Sanitary accommodation.	Condition of yard.	Condition of back passage.	Structures in yard.
31	3 months	2 months	Warper	1 month	Tube Bottle	1 month	Shelf and cupboard	Pail	Flagged and cobbled	Flagged	...
32	4 months	7 days	...	...	Hygienic Bottle	2 days	Shelf in scullery	W.C.	Flagged	Cobbled	...
33	7 months	3 weeks	...	..	Hyg. Bottle & Tube B'tle.	3 months	Front room	W.C.	Flagged	Cobbled	...
34	3 months	4 days	Cardroom	6 weeks	Tube Bottle	1 week	Front room (covered)	Pail	Flagged	Paved	...
35	21 days	4 days	...	...	Hygienic Bottle (5)	...	Cupboard in scullery	W.C.	Cobbled	Paved	...
36	4 months	2 days	...	...	Hygienic Bottle	...	In scullery (uncovered)	W.C.	Flagged	Paved	...
37	2 months	2 weeks	...	...	Tube Bottle	1 month	In scullery (uncovered)	Pail	Flagged	Paved	...
38	9 months	1 day	...	...	Hygienic Bottle	3 weeks	In scullery (uncovered)	W.C.	Flagged	Paved	...
39	2 months	2 weeks	Cardroom	2 months	Hygienic Bottle	...	Front room	W.C.	Flagged	Paved	...
40	7 months	1 day	...	...	Hygienic Bottle	10 weeks	Shelf in shop (covered)	W.C.	Flagged	Paved	Rabbit Hutch

TABLE XXXV.—continued.

No.	Age.	Days ill before death.	Work of mother.	If returned to work since birth of child.	Feeding of child at death.	Breast fed how long from birth.	Means of storage of milk and food.	Sanitary accommodation.	Condition of yard.	Condition of back passage.	Structures in yard.
41	10 months	2 weeks	...	...	Hygienic bottle	3 weeks	Shelf in scullery (covered)	W.C.	Flagged	Paved	...
42	9 months	3 weeks	...	...	Tube bottle	...	Shelf in scullery	Tippler	Flagged (air)	Paved	...
43	4 months	1 week	...	...	Hygienic bottle	...	Shelf in scullery	Pail	Flagged	Paved	...
44	11 months	1 week	...	...	Hygienic bottle	...	Shelf in scullery	W.C.	Flagged and gardened	Paved	...
45	5 months	2 weeks	...	...	Hygienic bottle	...	Front room (covered)	W.C.	Flagged	None	Greenhouse
46	11 months	2 weeks	...	...	Tube bottle	3 weeks	In living room (uncovered)	Pail	Flagged	None	...
47	6 months	1 week	...	...	Hygienic bottle	2 months	Front room (covered)	Pail	Flagged	Paved	...
48	4 months	3 days	...	...	Hygienic bottle	2 weeks	Window sill	Pail	Cobbled	None	...
49	11 months	2 days	...	...	Hygienic bottle	6 months	Scullery	Pail	Unflagged (bad)	Paved	Pigeon cote
50	4 months	1 week	...	...	Hygienic bottle	1 month	Shelf in scullery (uncovered)	W.C.	Flagged	None	...

TABLE XXXV.—continued.

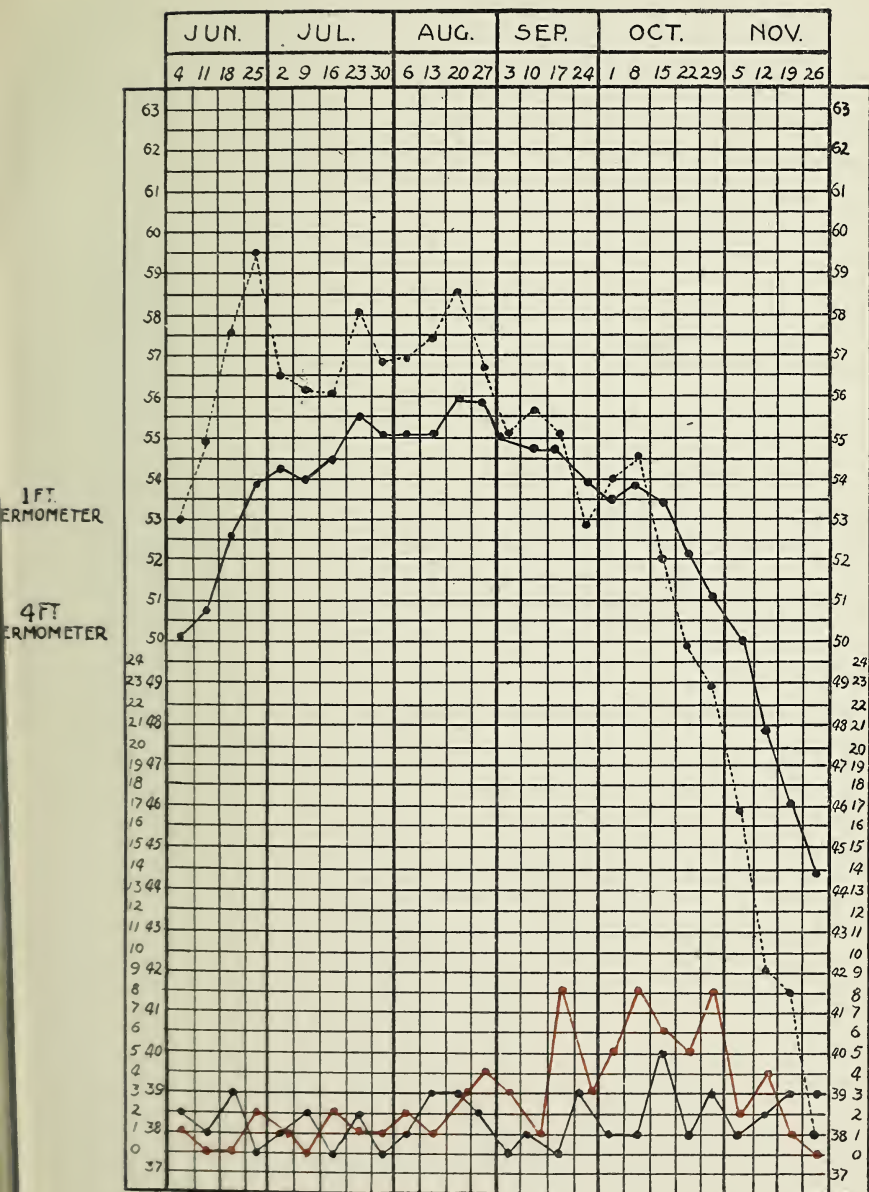
No.	Age.	Days ill before death.	Work of mother.	If returned to work since birth of child.	Feeding of child at death.	Breast fed how long from birth.	Means of storage of milk and food.	Sanitary accommodation.	Condition of yard.	Condition of back passage.	Structures in yard.
51	3 months	11 days	Weaver	2 months	Cup & spoon	1 month	Scullery (uncovered)	Pail	Flagged and cobbled	Paved	...
52	5 months	5 days	Winder	4 months	Hygienic bottle	4 months	Scullery (covered)	W.C.	Flagged	Paved	...
53	6 months	10 days	...	...	Hygienic bottle	2 months	Scullery	Privy	Flagged	Paved	...
54	10 months	2 weeks	Weaver	8 months	Cup & spoon	10 months (partially)	Scullery (uncovered)	Tippler	Flagged	Paved	...
55	9 months	3 weeks	Weaver	2 months	Tube bottle	2 months	Scullery (uncovered)	Pail	Flagged	Paved	...
56	4 months	1 month	...	...	Hygienic bottle	...	In living room (uncovered)	Tippler	Flagged	Paved	...
57	1 month	2 weeks	...	...	Hygienic bottle (2)	...	Cupboard in scullery	Tippler	Flagged	Unpaved	Greenhouse
58	3 months	9 days	...	...	Hygienic bottle	1 month	In scullery (uncovered)	Pail	Flagged and paved	Paved	...
59	13 months	...	...	...	...	...	...	Pail	Flagged	Paved	...
60	2 years	...	...	...	...	...	...	W.C.	Flagged	Paved	...

TABLE XXXV.—continued

No.	Age	Days ill before death.	Work of mother.	If returned to work since birth of child.	Feeding of child at death.	Breast fed how long from birth.	Means of storage of milk and food.	Sanitary accommodation.	Condition of yard.	Condition of back passage.	Structures in yard.
61	14 mths	...	...	...	...	...	...	Pail	Flagged	Paved	...
62	15 months	...	...	...	...	...	...	W.C.	Flagged and cobbled	Paved	...
63	66 years	...	...	...	...	...	...	W.C.	Flagged and cobbled	Paved	...
64	18 months	...	...	...	...	...	...	W.C. (bad)	Flagged	None	...
65	22 months	...	...	...	...	...	...	Pail	Paved	Paved (bad)	...
66	14 months	...	...	...	...	...	...	...	...	...	...
67	68 years	...	...	...	...	...	...	W.C.	Flagged	Paved	...
68	72 years	...	...	...	...	...	...	Pail	Cobbled	Paved	...
69	15 months	...	...	...	...	...	...	W.C.	Flagged	Paved	...
70	12 months	...	...	...	...	...	...	W.C.	Flagged	Cobbled	...

CHART 4.

Diarrhœa.



RED LINE - DEATHS 1910
 BLACK " " 1909

No.	Age.	Days ill before death.	Work of mother.	If returned to work since birth of child.	Feeding of child at death.	Breast fed how long from birth.	Means of storage of milk and food.	Sanitary accommodation.	Condition of yard.	Condition of back passage.	Structures in yard.
71	16 months	...	...	...	...	...	...	Pail	Flagged	Flagged	...
72	3 years	...	...	...	...	...	...	Pail (bad)	Flagged and cobbled	Cobbled	...
73	2 years	...	...	...	...	...	...	W.C.	Flagged	Paved	...
74	17 months	...	...	...	...	...	...	W.C.	Flagged	Paved	...
75	12 months	...	...	...	...	...	...	Privy	Unflagged	Cobbled (bad)	...
76	19 months	...	...	...	...	...	...	Pail	Flagged	Flagged	Disus'd mid'n
77	79 years	...	...	...	...	...	...	Tippler	Flagged, cobbled and gardened	Paved	...

SMALLPOX.

Only one case of Smallpox was notified to me during 1910.

The patient was a male. W.I.T., aged 38 years, occupied as a travelling tailor. He had visited Accrington, Church, and Rishton during the two weeks before his illness but I was unable to trace the source of his infection.

I had the patient removed to Finnington Hospital, on March 30th, and the usual measures of re-vaccination of contacts, and disinfection, were carried out promptly.

I was unable to find any scars of infantile vaccination on the patient, and his illness was a very severe one, the rash having a tendency to become confluent in certain areas of skin.

The patient died at Finnington Hospital, on April 6th.

The above measures proved successful in preventing any further outbreak of this disease during the year.

VACCINATION.

In spite of repetition each year, it is my duty to place on record my regret that the proportion of the population of Blackburn, which will be susceptible to the infection of Smallpox, when another outbreak of that disease occurs, is increasing.

In fact, the number of exemptions from Vaccination obtained each year is increasing to an extent which would alarm any Medical Officer of Health of a large town.

For example, 117 exemptions were obtained in the year 1903. Since then the number has increased each year, until during the year 1910, 1,159 exemptions were obtained.

In other words, during the past eight years the number of exemptions has increased tenfold.

Also the amount of re-vaccination carried out in Blackburn is small, except when there is an epidemic of Smallpox.

SMALLPOX.

TABLE XXXVI.

Year.	Cases Notified.	Deaths.	Mortality per 1,000 Population.
1882	4	0	'00
1883	4	0	'00
1884	0	0	'00
1885	4	0	'00
1886	28	2	'01
1887	42	4	'03
1888	98	10	'08
1889	0	0	'00
1890	0	0	'00
1891	0	0	'00
1892	4	2	'01
1893	79	8	'06
1894	13	0	'00
1895	0	0	'00
1896	0	0	'00
1897	0	0	'00
1898	0	0	'00
1899	0	0	'00
1900	13	2	'01
1901	0	0	'00
1902	49	2	'01
1903	92	3	'02
1904	2	0	'00
1905	4	0	'00
1906	0	0	'00
1907	1	0	'00
1908	0	0	'00
1909	2	0	'00
1910	1	1	'007

VACCINATION.—For 1892—1910.

TABLE XXXVII.

Year	Births.	S'ccessfully Vaccinated	Died Un- vaccinated	Insus- ceptible	Postponed	Exempted	Removed out of Distri't and traced.	Removed and not traced.
1892	3883	2869	492	13	50	...	...	297
1893	3822	2674	560	23	94	...	...	471
1894	3621	2589	340	21	96	...	..	505
1895	3899	2612	543	20	115	...	...	609
1896	3552	2587	495	59	113	...	...	288
1897	3629	2301	451	17	137	...	...	723
1898	3662	2459	655	3	153	164	...	228
1899	3643	2616	519	9	191	139	51	118
1900	3438	2687	416	8	52	120	56	47
1901	3386	2640	408	18	76	158	19	40
1902	3357	2635	329	13	68	128	20	56
1903	3304	2330	304	20	53	117	24	28
1904	3100	2181	353	12	63	120	13	50
1905	3193	2274	290	17	39	190	7	29
1906	3418	2264	337	9	61	305	7	60
1907	3348	1828	311	4	57	407	9	70
1908	3415	1442	349	4	47	887	14	77
1909	3139	1200	244	7	44	980	3	7
1910	2948	996	234	3	32	1159	23	109

VACCINATION RETURNS FOR THE YEAR 1910.

TABLE XXXVIII.

MONTH.	Births.	Successfully Vaccinated.	Died Unvaccinated.	Exemptions.	Postponements.	Insusceptible.	Removals not traced.	Removed and traced out of district.	Unaccounted for not Vaccinated.	Successfully Vaccinated each Quarter.
January ..	230	103	26	84	2	1	10	1	3	335
February	263	128	32	92	3	1	13	...	4	
March	247	104	28	95	3	...	12	2	3	
April	234	93	17	101	4	...	9	3	7	308
May	264	111	17	111	5	...	11	4	5	
June	279	104	24	125	4	...	14	3	5	
July	242	98	19	103	2	1	12	2	5	265
August ...	232	88	18	97	3	...	12	3	11	
September	248	79	16	109	4	...	10	4	26	
October ...	257	54	14	121	2	...	4	1	61	88
November	236	22	21	82	...	...	2	...	109
December	216	12	12	39	...	...	...	...	153
Totals ...	2948	996	234	1159	32	3	109	23	392	996

PLAGUE.

During 1910, cases of Plague occurred in certain parts of England, especially the Eastern counties, and an outbreak of Rat Plague in Suffolk was the subject of an interesting address delivered before the Eastern Branch of the Society of Medical Officers of Health, last November, by Dr. Pringle, the Medical Officer of Health of Ipswich.

Seven cases of Plague occurred in Suffolk, and the features of the cases were vomiting, diarrhœa, collapse, fever, and cyanosis. Four of these cases were fatal, and had enlarged glands in the neck.

It was conclusively shown that at that time, over a large area of East Suffolk, rats were dying of acute plague. In addition, hares, rabbits, ferrets, and one cat were found infected with plague. It was, however, the rat disease which was the primary condition.

The work of the Plague Commission proves, in the clearest and most convincing manner, that infection is conveyed from rat to rat by means of the rat flea. They also prove, equally clearly, that the disease is conveyed from rat to man by means of the bite of the rat flea. The human flea is not involved to any great extent. Experiments have shown that the stomach of a rat flea fed upon the plague-infected rat may contain thousands of plague bacilli.

It is probable that the habit of the flea of ejecting some of the contents of its stomach whilst it is feeding, and the fact that the excreta contains the plague bacilli, may account for the inoculation of the wound, and the subsequent infection.

It is possible for rats to pass from one district and infect the rats of another district.

Therefore it is desirable that a concerted effort should be made to destroy as many rats as possible. This should be supplemented by a general campaign of cleanliness, including good drainage, frequent scavenging, burning of household vegetable refuse, and destruction of rat runs.

It is necessary that every Medical Officer of Health should be on the alert for cases of plague, so long as it is present in England.

The Local Government Board have issued regulations on this subject.

The Board of Agriculture and Fisheries have also issued a leaflet on the destruction of rats.

These regulations and leaflet are re-produced herewith.

PREVENTION OF EPIDEMIC DISEASE : REGULATIONS AS TO
PLAGUE : DESTRUCTION OF RATS.

Local Government Board,

Whitehall, S.W.,

10th November, 1910.

SIR,

I am directed by the Local Government Board to state that, in consequence of the occurrence of cases of plague in rats in certain parts of England, they have deemed it desirable to confer upon local authorities in England and Wales powers with regard to the destruction of rats, in districts where plague in rats is present or suspected, or in which there is an unusual mortality among rats.

The Board have accordingly, in pursuance of their powers for the prevention of epidemic diseases, issued an Order, copies of which are enclosed, authorising the local authority to take measures for the destruction of rats and for preventing their entrance into buildings and other premises.

The Board are glad to learn that in many localities active steps are being taken by owners and occupiers for the extermination of rats. They trust that these steps will not be abated, and that all individuals will do their utmost to co-operate with and assist the local authorities in carrying out the Regulations.

The Order refers not only to the destruction of rats but to the prevention of their entrance into buildings and other premises. Inasmuch as the risk of infection from plague-stricken rats arises mainly through fleas, it is obviously to the interest of all persons to do what they can to prevent their entry into dwellings and to remove from the proximity of dwellings accumulations of material or rubbish which may harbour them. In this way as well as by action by the Local Authority under the Regulations, much may be done to further the object in view.

Copies of a Memorandum on Plague which has been prepared by the Board's Medical Officer will be forwarded in a day or two.

The Order and this Circular will be placed on sale, so that copies may shortly be obtained either directly or through any bookseller, from Messrs. Wyman and Sons, Limited, Fetter Lane, E.C.

I am, Sir,

Your obedient Servant,

H. C. MONRO.

Secretary.

10th November, 1910.

PREVENTION OF EPIDEMIC DISEASES : REGULATIONS AS TO
PLAGUE : DESTRUCTION OF RATS.

To the Mayor, Aldermen, and Commons of the City of London;

To the Councils of the several Metropolitan Boroughs;

*To the Councils of the several Municipal Boroughs and other
Urban Districts;*

To the Councils of the several Rural Districts;

To the several Port Sanitary Authorities;

And to all others whom it may concern.

Whereas we, the Local Government Board, are empowered by the Public Health Act, 1875, as extended to London by the Public Health (London) Act, 1891, and as amended by the Public Health Act, 1896, from time to time to make, alter, and revoke such Regulations as to us may seem fit, with a view to the treatment of persons affected with Cholera, or any other epidemic, endemic, or infectious disease, and preventing the spread of Cholera and such other diseases, as well on the seas, rivers, and waters of the United Kingdom, and on the high seas within three miles of the coasts thereof, as on land, and for guarding against the spread of disease; and may provide for the enforcement and execution of such Regulations;

Now, therefore, we, the Local Government Board, do, by this our Order, and in the exercise of the powers conferred on us by the Public Health Act, 1875, the Public Health (London) Act, 1891, and the Public Health Act, 1896, and every other

power enabling us in that behalf, make the following Regulations, and declare that the said Regulations shall apply and have effect throughout England and Wales, and shall be enforced and executed by the Authorities, Officers, and Servants hereinafter mentioned :—

ARTICLE I.—In this Order—

The expression “ Local Authority ” means the Common Council of the City of London, the Council of each Metropolitan Borough, the Council of each Municipal Borough or other Urban District, the Council of each Rural District and each Port Sanitary Authority ;

The expression “ District ” means the District of a Local Authority.

ARTICLE II.—In any district in which a representation is made to the Local Authority that rats in the district are infected or threatened with Plague, or that there is an unusual mortality among rats in the District, the Local Authority shall report the matter to us, and shall take measures (*a*) for the destruction of all rats in the district and (*b*) for preventing the entrance of rats into buildings and other premises in the district.

ARTICLE III.—For the purposes of these Regulations, the Local Authority may appoint such additional officers or servants as they may deem necessary, and may delegate to such officers or servants any powers under these Regulations.

ARTICLE IV.—The expenses incurred by a Local Authority in the execution of these Regulations shall be defrayed in the case of a Local Authority which is a Sanitary Authority for the execution of the Public Health (London) Act, 1891, as part

of their expenses in the execution of that Act, and in the case of any other Local Authority as part of their general expenses in the execution of the Public Health Acts.

*Given under the Seal of Office of the Local Government Board,
this Tenth day of November, in the year One thousand nine
hundred and ten.*

JOHN BURNS.

President.

H. C. MONRO,

Secretary.

NOTICE—The Public Health Act, 1896, provides by sub-section (3) of Section 1 that if any person wilfully neglects or refuses to obey or carry out, or obstructs the execution of, any regulation made under section one hundred and thirty, or section one hundred and thirty-four of the Public Health Act, 1875, or in pursuance of either of those sections as extended to London by the Public Health (London) Act, 1891, and as amended by the Public Health Act, 1896, he shall be liable to a penalty not exceeding one hundred pounds, and in the case of a continuing offence to a further penalty not exceeding fifty pounds for every day during which the offence continues.

Circular.

Sanitary Authorities in England and Wales (including London).

Plague.

LOCAL GOVERNMENT BOARD,

WHITEHALL, S.W.,

12th November, 1910.

SIR,

I am directed by the Local Government Board to advert to their Circular Letter of the 10th instant, and to forward to the Sanitary Authority the enclosed copies of a Memorandum which has been prepared by the Board's Medical Officer on the subject of Plague, together with directions for obtaining and forwarding for bacteriological examination material from suspected Plague cases.

A copy of the Memorandum and of the Directions should be given to the Medical Officer of Health, and a copy of the Memorandum to the Inspector of Nuisances.

I am to request that the Sanitary Authority will instruct their officers to use their best endeavours to secure the carrying into effect of the suggestions which the Memorandum contains.

The Memorandum will be placed on sale, so that copies may shortly be obtained either directly or through any bookseller from Messrs. Wyman and Sons, Ltd., Fetter Lane, E.C.

I am, Sir,

Your obedient Servant,

H. C. MONRO,

Secretary.

MEMORANDUM ON PLAGUE.

I.—GENERAL CHARACTERISTICS OF THE DISEASE.

After frequent recurrences during several centuries, ending with the great outbreak of Plague in 1664-1679, the disease disappeared from Great Britain for more than 200 years. In 1894 it became prevalent at Hong Kong, and since that time it has spread from Asia into various parts of Europe, America, Africa, and Australia. In 1900 and in two subsequent years small outbreaks have occurred at Glasgow, and one or more cases have also occurred at Liverpool, Cardiff, and Leith during the last ten years.

During the present year (1910), cases suspected to be pneumonic plague were associated in Suffolk with definite occurrence of plague in rats and other rodents.

In view of these facts, sanitary authorities and their officers should be on the alert, and especially should they take steps for ascertaining the cause of any recognised excessive sickness in rats, or of human illness of a doubtful nature associated with sickness or mortality in rats in the same district.

The following facts with regard to plague should be borne in mind:—

(1) *Symptoms of Plague.*

An attack of plague usually begins some three to five days after exposure to infection. The attack may develop gradually, but, commonly, there is sudden onset with much fever, as indicated by a high temperature, rapid pulse, headache, hot skin, and thirst. The eyes are injected; the expression, at first anxious, becomes subsequently vacant and dull; the utterance is thick, and the gait unsteady as in one under the influence of drink. There is at times a distinct tendency to faint. The tongue is at first covered with a moist white fur, except at the edges, which are red, but later on it becomes dry and of a mahogany color.

The most distinctive sign of plague is the presence of glandular swellings, or "buboes" as they are called, in the groin, armpit, or neck. These "buboes," which led to the disease being called "bubonic plague," appear, as a rule, about the second or third day of the disease. They are usually painful and tender on pressure, and in size they vary from that of an almond to that of an orange. Later on they may "gather" and burst like an ordinary abscess. In a few cases "carbuncles" occur.

Cases of plague occur in which buboes are greatly delayed or even absent, as for instance in "Pneumonic," "Gastric," and "Septicæmic" plague.

In addition to the above-mentioned forms, plague sometimes takes on the so-called "ambulant" form. In plague of this description the affected person is hardly ill at all, presenting no definite symptoms perhaps beyond indolent, though painful, swellings in groin or armpit. Such plague cases may, nevertheless, be instrumental in spreading the disease, and any persons, therefore, who, having been possibly exposed to plague, exhibit these symptoms, should be isolated and watched medically until the nature of their malady has been definitely ascertained.

(2) *Diagnosis of Plague.*

The three most important forms of plague—bubonic, septicæmic, and pneumonic—are very liable to be confused with venereal diseases, enteric or typhus fever, and ordinary pneumonia respectively; and the differentiation will be greatly facilitated (a) if the medical practitioner bears the possibility of plague in mind, (b) if he inquires carefully into the antecedents of the patient, and into the occurrence of rat sickness or mortality, and (c) if he avails himself of the bacteriological aid to diagnosis mentioned below. The occurrence at or about the same time or in succession of more than one case of pneumonia in a house, or the unusual prevalence of disease of a dubious character in a neighbourhood, should at once lead to suspicion and to the action needed to clear up the diagnosis.

(3) *Method of Spread of Plague.*

The pneumonic form of plague is directly infectious from patient to patient, the expectoration and possibly also the droplets ejected when the patient coughs containing plague bacilli. The means for avoiding personal infection are set out below.

In bubonic plague there is a consensus of experience that personal infection rarely, if ever, occurs ; and that, given elementary cleanliness, including absence of fleas and bugs, little risk is run by doctors or nurses or other attendants. Bubonic plague is the rule. pneumonic plague is rare. That infection from patient to patient seldom occurs is further shown by the comparative infrequency of multiple cases of plague in invaded houses. Experimental observations* have shown that the plague bacillus has only a short extra-corporeal vitality ; and that infected soil and dust need not be considered as serious or continuing sources of infection.

It has also been shown that experimental feeding of animals with virulent plague material produces the disease only when the infective material is given in enormous doses. Apart from the protection afforded by cooking, such massive infection of human food is highly improbable. It is, however, desirable that the access of rats and mice to human food should be prevented.

In the majority of cases of human plague, the virus enters through the skin by means of a flea-bite, occasionally by inoculation in other ways. Under experimental conditions the chance of infection varies with the number of infected fleas which are allowed to bite the subject of the observation. The risk of infection, therefore, may be regarded as likely to be proportional to the extent to which the house or workplace is infested by plague-infected fleas.

* See Reports on Plague Investigations in India in *Journal of Hygiene*, particularly Vol. 8, No. 2 (1908).

(4) *Rats the Source of Plague.*

Plague, for administrative purposes, may be regarded as a disease of rats which incidentally and occasionally attacks man. Fleas form the intermediaries between the diseased rat and man. If the fleas of infected rats (or the fleas of such other animals as occasionally suffer from plague) are excluded from access to human beings, plague will seldom, if ever, spread from animals to man.

The species of rat and the species of fleas infesting the rat have an important bearing on the likelihood of infection spreading to man.

During the great epidemic of plague in England in the 17th century, the black rat (*Mus rattus*) was chiefly prevalent. The brown or Norwegian rat (*Mus decumanus*) began to invade England early in the 18th century, and soon almost entirely replaced its smaller and weaker rival in this country. The change bears on the possibility of the occurrence of human plague in this country. The brown rat in towns is found chiefly in sewers, docks, slaughter-houses, granaries, etc. In the country it lives in burrows in the hedgerows and ditches and in ricks. It is a shy animal and avoids man, seldom taking up its abode in human habitations. In India the black rat lives and breeds in the houses and huts of the natives, in close proximity to man. Both the flea *ceratophyllus fasciatus*, which commonly infests rats in this country, and *pulex cheopis*, which is the usual rat flea in India and other tropical countries, readily feed upon man when hungry and when their natural host is not available; *pulex cheopis* is usually considered to bite man more readily than the former.

II.—MEASURES AGAINST PLAGUE.

The chief measures requiring to be taken to prevent the spread of plague follow from the knowledge of its natural history which has been acquired in recent years, especially as the result of the work of the Indian Plague Commission.

Measures concerned with the prevention of importation of infection from abroad are regulated by the International Sanitary Convention of 1903, and need not be considered in this Memorandum.

The experience of Glasgow shows that in this country the disease in man can easily be controlled under conditions of efficient sanitary administration.

The measures to be taken in respect of plague occurring in this country concern (a) human sources of infection, (b) infection from inanimate objects, and (c) infection from lower animals, especially the rat.

(a) *Precautions against human infection.*

The first step in the control of spread of infection from patient to patient is the discovery of suspected cases of illness and their prompt notification to the Medical Officer of Health.

Notification.—The Board's Order of September, 1900, requires under penalty immediate notification to the Medical Officer of Health of the district, and by him to the Board, of every recognised case of plague. To aid in this recognition the sketch of the clinical features of the malady given above has been inserted in this Memorandum. Further, in order to aid in identifying plague newly developing in a district, the Board have arranged for

Bacteriological Diagnosis, without cost to the local authority, of material sent to the Board's medical officer by the medical officer of health from the earliest suspected cases.

Isolation and Observation of "Contacts."—Although it is only in the pneumonic form of disease that personal infection is likely to occur, the isolation of all patients suffering from plague is desirable, among other reasons, because disinfection and the disinfestation of premises from vermin can be more efficiently

secured after the patient's removal. It is important to keep under observation those who have been in contact with the patient or exposed to the same conditions.

The Production of Personal Immunity.—Those persons who are liable to be exposed to direct infection will do well also to protect themselves beforehand by means of the plague prophylactic, which has been found to be successful in India in protecting attendants and others exposed to infection under very dangerous conditions. Plague prophylactic should be obtained by the medical officer of health of districts actually invaded by plague, for the protection of doctors and nurses who may have to attend cases of plague, or others who may be exposed to infection. Any person attending a patient with recognised or suspected pneumonic plague should use strict precautions to avoid infection. Among such precautions may be mentioned personal cleanliness, especially of the hands, and the use of a respirator containing a film of cotton, made to cover the nose and mouth.

The part played by man in spreading bubonic plague is small. Hence measures taken against him have a correspondingly limited influence in preventing the propagation of plague. In the case of pneumonic plague, direct personal infection occurs. Such outbreaks are successfully dealt with by isolation of the patients and observation of contacts.

(b) *Precautions in regard to Inanimate Objects.*

These are concerned with the destruction of infective material derived from man or from animals, and with removing the harbourage for rats.

As already stated, the plague bacillus does not live long outside the animal body, even in excreta or in discharges from the lungs or abscesses. It is, however, important thoroughly to disinfect and cleanse infected dwellings. The disinfection and cleansing which will be most efficient will be such as will secure the dis-infestation of the rooms and of all articles of bedding and clothing from fleas. Clothing, which may harbour infected

fleas, is dangerous. Fleas are to be found in dust and rubbish in dirty, untidy houses ; hence the importance of domestic cleanliness in the prevention of plague.

The removal of all heaps of refuse, especially of garbage affording food for rats, the removal of empty boxes or any rubbish allowing rats to hide near houses, the stopping up of rat-runs with broken glass and tar, the repairing or re-laying of drains in houses where there are rat-runs, are among the most important methods for preventing the spread of plague by the rat. It is also important securely to stop up entrance to spaces under floors of dwellings and outbuildings where rats may harbour.* These and other like measures, which will occur to all, are directed towards *preventing the access of rats to, or their entrance into, houses*. If rats are kept out of dwellings, danger is relatively small. There is difference of opinion as to the keeping of cats. Cats which have worried plague-infected vermin may bring rat-fleas into the house ; but the presence of a cat in a house is one of the best safeguards against domestic invasion by rats or mice. The balance of evidence appears to be strongly in favour of the protective influence of cats. But a cat which shows signs of illness should be destroyed and buried.

Domestic uncleanness favours plague. The human flea (*pulex irritans*) which flourishes under such conditions, will bite both the rat and man ; but it is seldom found on rats, and soon dies out on them. Uncleanness also may lead to increase of rats in and about the house.

(c) *Precautions against Rats.*

The *continuous* suppression or limitation of rats in a district into which rat-plague has been introduced will prevent the occurrence of human plague of local origin. Efforts should therefore be concentrated in such districts towards this end. Complete

* The provision of a layer of concrete under the floor as required in the Board's Model Byelaws for new buildings in urban districts, is of importance in this connection.

extermination of rats is perhaps impossible ; but decrease of rats, short of extermination, diminishes greatly the chances of infection. Such measures must be persistent, as the rat soon breeds up to its old level of numbers, conditioned only by the amount of food supply and the activity of its enemies. Rats are intelligent, and will migrate to other districts unless the efforts at destruction are combined and systematic. In view of likely migration, medical officers of health and inspectors of nuisances, as well as private persons, in districts bordering on a neighbourhood where rat plague exists, should make inquiries at intervals, and should submit suspected rats found dead or ill for bacteriological examination.

There are several methods of dealing with rats, but it is unwise to trust to any one of them alone, and, when practicable, all methods should be employed together. Of traps, a spring trap has been found to be the most useful kind. Poisons containing phosphorus or arsenic are effective, but they should not be laid where poultry or other domestic animals may be poisoned. The different forms of bacterial virus are useful, where chemical poisons cannot safely be employed. They are said sometimes to be uncertain in result, and it is important that animals poisoned by them should not obtain access to human food. Hunting with dogs and ferrets is a very effective method, especially in the hands of expert rat catchers. If dogs or ferrets are employed, they should be kept under observation and not allowed in domestic dwellings. The Board of Agriculture and Fisheries are about to issue a leaflet on the subject of rat destruction, which will contain general information on the matter.

Even in districts not affected with rat plague, nor bordering on districts so affected, the Sanitary Authority should be on the watch for the occurrence of unusual mortality among rats. If excessive mortality is observed, bacteriological examination of rats found dead should be made, and if they prove to have died of plague, steps should be taken to ensure the *systematic and continuous destruction of rats*. Precautionary measures of this kind are especially called for in and about docks and wharves, and

also in places where rats abound, such as granaries, meat markets, slaughter-houses, piggeries, and dumping-grounds for refuse. The private slaughter-houses still found in the immediate neighbourhood of dwelling-houses are a special source of danger, being commonly over-run with rats.

Fleas leave the dead rat when it becomes cold. Dead rats should, however, not be handled without precautions. Cremation is the best method of disposal of dead rats, if it can be carried out without involving delay or unguarded handling. Failing this they should be so buried that they cannot be disinterred by other animals.

Rat-catchers, as well as those engaged in disinfection of clothing, etc., can, apart from the administration of plague prophylactic, partially protect themselves by the external application of powders, etc., disliked by fleas, and by wearing puttees or gaiters and gloves.

On a previous page the importance of removing all harbourage for rats in or near houses has been emphasised. So far as possible every house should be rat-proof. It is equally important not to encourage the domestic invasion of rats by allowing morsels of food to lie on or under the floor or in ashpits.

The most important recommendations may be summarised as follows :—

1st.—*Persistently and systematically destroy all rats.*

2nd.—*Remove and obliterate their nests, burrows, and habitual haunts, and*

3rd.—*Make each dwelling, as far as practicable, rat-proof, and remove all known harbourage for rats in or near dwellings.*

4th.—*At the same time do not allow waste food, whether for human beings, chickens, or other animals, to accumulate in or about the house.*

Rat-plague is not necessarily accompanied or followed by human plague. Freedom from risk of plague can be secured, with almost complete certainty, by any household which acts in accordance with the directions given above.

ARTHUR NEWSHOLME,

Local Government Board,

Medical Officer.

November, 1910.

DIRECTIONS FOR OBTAINING AND FORWARD-
ING FOR BACTERIOLOGICAL EXAMINATION
MATERIAL FROM SUSPECTED PLAGUE CASES.

The Local Government Board, with a view to assisting in the identification of plague newly developing in a district, have arranged for bacteriological testing, without cost to the local authority, of material from the earliest suspected case or cases, or from the earliest suspected rodents, in the district. This material can be received only from the Medical Officer of Health.

A.—*From the Living Person.*

1. Clean with soap and water and then with alcohol the skin over the bubo. When dry, or after mopping with a clean cloth, pierce the bubo with the needle of a hypodermic syringe (previously cleaned with boiling water); empty the syringe into a small phial, previously cleaned with boiling water. Collect additional exuding fluid in capillary tubes.

2. When there is a discharging bubo, collect fluid therefrom in capillary tubes as in the above case. When this discharge is not of a sufficiently fluid character for collection in this way,

place some of it in a small glass-stoppered phial, previously well washed out with boiling water or with alcohol, care being taken that no alcohol remains in the phial.

3. If expectoration be obtainable, collect some in a phial in the manner prescribed in the previous sentence.

4. If the patient shows symptoms of lung disease, it should be considered whether fluid may not be obtained by aspiration under strict aseptic precautions from the lung over the affected part, and collected as above.

B.—*From the Dead Body.*

1. Cut out any inflamed lymph gland, together with some of its surrounding tissue, wrap the whole in fresh gutta percha paper, and place it in a wide-mouthed, glass-stoppered bottle, previously well washed out with alcohol, care being taken that no alcohol remains in the bottle. The bottle should have the stopper well secured and sealed.

2. Obtain also a piece of the spleen, dealing with it in the same manner.

C.—*From Rats and other Rodents.*

The suspected dead animal should be immersed in a solution of a strong disinfectant before being placed in the package. By this means fleas, if any, can be destroyed.

The animal should then be packed in a tin box or a jar with a close-fitting cover, and this placed in a larger wooden box filled in with sawdust.

D.—*Directions for forwarding Material.*

1. All suspected plague material should be very carefully packed so as to avoid risk of breakage and danger of infection during transmission.

2. The material may be sent by letter post, not parcel post, if the Post Office Regulations* are complied with. The postage need not be prepaid.

3. The package should be addressed "The Medical Officer, Local Government Board, Whitehall, London."

4. A statement giving details as to the source of the material, and a preliminary account of the clinical character of the case, and other information respecting the patient should always be sent under separate cover to the Medical Officer, Local Government Board, at the same time as the material is sent.

5. Where possible, the Medical Officer, "Localise" London, should be advised by telegram that material has been despatched, specifying the route and also, if possible, the time when the material may be expected to arrive.

ARTHUR NEWSHOLME,

Medical Department,

Medical Officer.

Local Government Board,

November, 1910.

* Postal Regulations for sending deleterious liquids or substances by ordinary letter post for Medical Examination.

"Any such liquid or substance must be enclosed in a receptacle hermetically sealed, which receptacle must itself be placed in a strong wooden, leather, or metal case, in such a way that it cannot shift about, and with a sufficient quantity of some absorbent material (such as sawdust or cotton wool) so packed about the receptacle as absolutely to prevent any possible leakage from the package in the event of damage to the receptacle.

"The packet so made up must be conspicuously marked 'fragile, with care,' and bear the words 'Pathological Specimen,' and also the signature and address of the Medical Practitioner or Veterinary Surgeon who sends it. The packet must on no account be sent by Parcel Post. Any packet found in the Post not packed and marked as directed, will be at once stopped and destroyed with all its wrappings and enclosures."

BOARD OF AGRICULTURE AND FISHERIES.

THE DESTRUCTION OF RATS.

Two kinds of rats are found in Great Britain, the Black Rat (*Mus rattus*) and the Brown Rat, sometimes called the Hanoverian or the Sewer Rat (*Mus decumanus*). The former, which has been longer established in this country, is the smaller of the two. It is more lightly built, but its ears are slightly larger and it has a thin tail eight or nine inches long, or about an inch longer than the rest of its body. The upper part of its fur is of a grey black colour, the under parts being a dark grey. The brown rat is generally longer in the body, but shorter in the tail, which is never as long as the head and body combined. It has a blunter muzzle, and its fur is grey-brown above and white below. The fur of the brown rat, moreover, is rather coarser than that of the black rat.

The females of both species breed at a very early age, and though they go with young for six weeks, they have several litters in the year, each litter comprising from six to fourteen young. Rats, therefore, increase in numbers very rapidly if sufficient food is available. It has been calculated that in India, where they breed all the year round, the offspring of a single pair would, if supplied with sufficient food and left unchecked, amount at the end of the year to 35,000. Fortunately such favourable conditions are never present.

Rats are omnivorous feeders, and when desperate with hunger are even cannibals, but they are by choice dependent on the food supplies which man prepares for himself and his domestic animals, or on the waste of such food. Many estimates have been made of the damage done by the rat population of Great Britain in a single year, but as these estimates are based on the assumption that the supplies consumed by rats would otherwise be available for human use or consumption the reasoning is unsound. It is, however, generally admitted that the damage done is incalculable. Rats frequent dwelling-houses (generally only the lower floors), barns, granaries, poultry-yards, slaughter-

houses, sewers, and other places where food supplies are stored, or the waste is thrown away. They also frequent rabbit warrens, and take to the fields when food is to be found there, returning to shelter and to breed in corn-stacks in the autumn.

Apart from the food consumed by rats, much damage is done to buildings, floors, and other kinds of woodwork from their power of gnawing holes and passage ways. It is also known that the disease called plague may be spread to human beings by fleas from infected rats.

It is, therefore, highly desirable, both from an economic and a sanitary point of view, that rats should, as far as possible, be destroyed. It would, of course, be well if they could be entirely exterminated in Great Britain, but this is practically an impossibility. During the period of nearly two hundred years that has elapsed since the brown rat was introduced into this country, it has penetrated to the remotest parts of the British Islands, and is to be found in many ruined buildings and other places from which it would be difficult to dislodge it. Since rats can live on garbage, travel over wide areas, and breed very rapidly, a few pairs allowed to remain alive would quickly re-stock the country, and even if every rat were destroyed, others would undoubtedly be imported in some of the vessels that call at English ports. The expense and inconvenience of exterminating the rat population of this country and preventing re-importation would far outweigh the economic gain to be secured by their destruction.

The destruction of rats is essentially a matter for local effort, and the occasion for the attempt to be made is when the danger of injury from their presence outweighs the probable cost and trouble of killing them. Local effort, however, does not necessarily mean isolated or unsystematic effort. In many places it is true that rats can be kept down by cats, traps, and occasional rat hunts, and this is true of most dwelling-houses, especially if the kitchen and outhouses are kept in a clean and tidy state so that the rats find it difficult to procure an abundance of food. It

is also true of many farms where the buildings are well kept, but in other cases, on farms, or in mills, maltheuses, and other establishments where large supplies of food are stored, especially where several such buildings stand close together, combined effort is essential. In these cases the formation of a Rat Club such as is described in Leaflet No. 84 is desirable. It is customary in such cases for all the large occupiers of land in a given district, generally comprising several thousands of acres at least, to offer a small reward for every rat killed within the district, the tail being produced as a proof of slaughter. Occasionally, however, it happens that for sanitary or other reasons, especially when rats have been allowed to breed undisturbed for a long time, it is considered important to attempt the extermination of rats over a much wider area, and in this case a more elaborate organisation is required. The following observations and suggestions may be found useful to those who propose to organise such a campaign.

There are three methods which may be employed in the destruction of rats : (1) Hunting, (2) Trapping, (3) The use of Poison or Rat Virus. There is not much to be said about the first of these methods. Most residents in the country are acquainted with the ratting instinct of terriers, and with the employment of ferrets, and a knowledge of the practice can better be obtained by experience than by description. As regards traps, the spring trap which kills the rat at once when the spring is released is the best, but care must be taken to see that no other animal is caught, and traps should therefore be visited frequently. Another kind is the wire trap, on the eel-basket principle, which the rat can enter easily when attracted by the bait but cannot leave.

Rat-poisons are sold in all country towns by chemists, and several patent or proprietary poisons are advertised in agricultural and other newspapers. They are generally composed of phosphorus paste or arsenic, but strychnine may also be employed, while the use of barium carbonate has also been recom-

mended.* Plaster of Paris is sometimes used mixed with flour, which sets into a hard mass in the rat's stomach. It must be remembered that rats are very suspicious, and if they find that any number of their fellows die after eating any kind of food they will avoid such food for some time. It will be as well, therefore, to vary the form and appearance of the poisoned bait at intervals. Thus, after using poisoned bread for a while, oatmeal similarly treated should be used.

* A recent bulletin published by the United States Department of Agriculture discusses the relative merits of arsenic, phosphorus, strychnine and barium carbonate as rat poisons. ARSENIC is cheap, and perhaps the most popular poison for the purpose, but experiment showed that, measured by the results obtained, it is dearer than strychnine. It is variable in its effects. One part of arsenious acid may be mixed with twelve parts by weight of oat or maize meal and made into stiff dough with white of egg. PHOSPHORUS is almost as commonly used as arsenic, and is effective when mixed in an attractive bait; but in the paste forms, which contain from one to four per cent. of yellow phosphorus in glucose and other substances, the lower percentage is too small to be always effective, and the larger amount is dangerously inflammable. Many fires have been caused by phosphorus paste in the United States, and the Biological Survey does not recommend its use. It is said that there is no foundation in fact for the statement that phosphorus dries up or mummifies the body without odour when eaten by rats or mice. STRYCHNINE may be effectively employed in the open and round farm buildings, but it is too rapid in its action for use in houses as the vermin would die on the premises. Dry crystals of strychnia sulphate may be inserted in portions of raw meat, sausage or fish,⁴ and these placed in the burrows. Strychnine syrup may be prepared by dissolving $\frac{1}{2}$ oz. of the sulphate in one pint of boiling water and stirring in one pint of thick sugar syrup; this may be used to moisten a bait of oatmeal, while wheat or maize may also be soaked in it. In all cases it is advisable that baits containing one of the above poisons should be obtained ready prepared from a pharmaceutical chemist. BARIUM CARBONATE is considered one of the cheapest and most effective poisons for rats and mice. It is without taste or smell, has a corrosive action on the mucus lining of the stomach, and, causing thirst, induces the vermin to seek water in the open, where they die. In the small doses used it is said to be harmless to domestic animals. It may be employed in the proportion of one part of the carbonate to four parts of meal, mixed to a dough with water. A convenient bait is composed of one part by measure of the mineral to eight parts of oatmeal, mixed to a stiff dough. The carbonate may also be spread on fish or moist toasted bread. In 1905 large quantities of a poisonous food were sent out by the Agricultural Botanical Institute at Munich for the purpose of destroying field mice, and it is stated that it chiefly contained barium carbonate.

Apart from the risk of a possible prosecution under the Acts which deal with the use of poisoned grain, meal, or meat, it is very necessary when using poisons to take precautions to avoid injury to other animals and human beings. (The Acts concerned are the Poisoned Grain Prohibition Act, 1863, and the Poisoned Flesh Prohibition Act, 1864.)

In any case, poisoned baits should only be laid by authorised and responsible people. Their whereabouts should be carefully recorded, and they should be visited regularly and destroyed if not taken within a short period. The strictest precautions should be taken to prevent the bait being eaten by domestic animals, and, if necessary, notices should be exhibited in places where baits are laid to warn people to keep dogs or other animals away from the place. When poisoned baits are laid by a Rat Club or other organisation, it would be as well to insist that each group of baits should be numbered, and its situation, success, or failure and ultimate destruction recorded in a book.

Rat viruses, on the other hand, of which there are several on the market, can be used without fear of direct injury to any animals other than rodents. These viruses are believed to be composed in every case of a culture of a microbe causing a specific disease of rats, which in some cases, at any rate, is contagious, so that the inoculated rat conveys the disease to his fellows. The uncertainty with which this method is attended is due partly to the difficulty of securing a successful infection in all cases, and partly to the fact that, if only slightly infected, rats recover and thereafter become more or less immune to the disease.

It cannot be too strongly urged, therefore, that if there is to be a successful attack upon rats in any district, reliance should not be placed in any one of the methods referred to above, but that, as far as possible, under the circumstances, *all these methods should be employed*. Rats are intelligent animals, and will soon learn to evade any one of these devices, and will even vacate for a time the district in which they are being harried.

If, therefore, it is proposed to exterminate the rats in a large district, means should be employed whereby this intelligence can be used to compass their destruction. With this object, combined efforts should be made over a wide area, and the attack made in a circle radiating from a given spot in which it is considered that the final work of destruction can be accomplished with least difficulty. Rat hunts should be organised simultaneously on the circumference of this circle, traps and poison should be laid on the outside and food supplies in the centre to which the rats should be driven. Every precaution should be taken to see that no rats escape outwards, and their holes should be closed, and their runs and nests destroyed as the circle is gradually drawn closer. Finally, when a broad band at the circumference has been cleared, poisoned food should be employed in the centre, and virus laid where the rats can take the disease.

4, Whitehall Place, London, S.W.

December, 1910.

PUERPERAL FEVER.

There were 10 notifications of Puerperal Fever from medical practitioners, including 8 deaths, during 1910, compared with 11 such notifications, including 7 deaths, during 1909.

Nine bulbs of Puerperal Serum, were supplied free to medical men during the year.

MIDWIVES.

Two of the Lady Inspectors—Miss St. Stephens and Miss Lowe—have continued to visit the midwives of the town and supervise their work during 1910.

The progress in the improved methods of the work of the midwives of Blackburn, which was reported in 1909, has been maintained satisfactorily during 1910. The work of some midwives, however, is still far short of what it should be.

In May, 1909, each midwife was supplied with books of temperature charts, so that they might record the temperatures of lying-in women. At first there was great difficulty in getting these charts filled in correctly, but a great improvement has now taken place. They have proved of great use educationally. Now the temperatures of the mothers are taken more regularly, and increased temperatures have led to the attendance by a medical man, when such would probably have been neglected previously.

Many instances could be mentioned of the appalling ignorance of some midwives, but, fortunately, such instances are now less common.

For example, in connection with the distribution of these temperature charts, one midwife was asked if she knew how to keep such a chart. She replied that she did know. On being asked how she would keep it, she replied, "In water"!

There has again been an increase in the number of times medical help was obtained, but there is still room for further improvement in midwives realising more quickly when the mother is in such a condition as to need a doctor.

Miss St. Stephens and Miss Lowe have given two addresses to midwives during the year, and another course of six lectures is now being given, four of which have already been delivered.

I know that this tuition is of great help to the midwives in their work.

It has been necessary to censure nine midwives during 1910 for failing to comply with the rules of the Central Midwives' Board.

The number of midwives practising in Blackburn at the commencement of 1910 was 43.

Ten midwives on the 1909 Register did not notify their intention to practise during 1910, and these have not been included.

During the year, eight new midwives were placed on the Roll.

Six of the latter have passed the examination held during the year by the Central Midwives' Board.

Two have been placed on the Roll under the New Rule of the Midwives' Act, 1902.

There are now 51 midwives practising in Blackburn.

All midwives carry bags, regulation appliances, and anti-septics.

CONDITION OF BAGS.

Satisfactory	40
Fairly Satisfactory	9
Unsatisfactory	2

Case-books are kept by 44 Midwives.

Four Midwives have not been registered long enough to use one, and three others take cases only for the month.

CONDITION OF CASE-BOOKS.

Satisfactory	31
Fairly Satisfactory	13
Unsatisfactory	2

Eight Midwives are illiterate, and the records in the books are entered by other persons.

CONDITION OF HOUSE.

Clean	43
Fair	8

Number of houses containing Baths : 14.

CONDITION OF PERSON.

Clean	42
Fair	9

Dresses : Print in all cases.

Midwives using Temperature Charts	46
Number satisfactorily kept	31
Number fairly satisfactorily kept	12
Number unsatisfactorily kept	3

NO. OF MEDICAL AID RECORDS DURING—

PREGNANCY :

Œdema of Extremities	1
Debility	1

LABOUR :

Presentations—

Breech	8
Elbow	1
Face	3
Foot	4
Hand	1
Transverse	2
Prolapsed Cord	1
Delayed Labour	46
Uterine Inertia	14
Secondary Uterine Inertia	3
Ruptured Perineum	10
Threatened Rupture	3
Rigid Perineum	3
Collapse	5
Obstructed Labour	32
Ante-Partum Hæmorrhage	3
Post-Partum Hæmorrhage	3
Miscarriage	5
Adherent Placenta	3
Placenta Prævia	1
Abnormal Third Stage	1
Partial Retention of Membranes	3
Eclampsia	2
Prolapsus Uteri	1
Œdema of Lower Extremities	1
Dropsy	1
Inflammation of Uterus	1
Patient's Request	26
Other causes	4
Albuminuria	1
Pendulous Abdomen	1

PUERPERIUM :

High Temperature	7
Rigor and Collapse	2
Retention of Urine	1

CHILD :

Inanition	8
Jaundice	2
Developmental Defects	5
Convulsions	3
Retention of Urine	1
Ophthalmia	2
Imperforate Urethra	3
Broken Thigh	1
<hr/>	
Total	230

Still-births notified by Midwives	53
Puerperal Fever cases attended by Midwives ...	4

TABLE XXXIX.

No.	Name.	Address.	Date of Enrollment.	Qualification.
9050	Armer, Emma	98 Accrington Road	1904—Oct. 27	L.O.S., 1900
5626	Backhouse, Ruth	11 Queen's Road	" June 30	In Practice July, 1901
5627	Baylie, Margaret	31 Shorrock Lane	" June 30	Ditto
5788	Beard, Mary	2 Bright Street	" June 30	Ditto
6235	Collins, Rose Ann	26 Lord Derby Street	" July 21	Ditto
5628	Conway, Mary Ann	35 Eccles Street	" June 30	Ditto
10257	Corrigan, Mary Ann	11 Henrietta Street	" Nov. 24	Ditto
31423	Coupe, Elizabeth E.	38 Carr Street	1910—Sept. 1	Ditto
26684	Counsell, Elizabeth Ellen	59 Rilev Street	1908—July 22	St. Mary's Hospital, C.M.B.
18468	Doran, Annie	43 Daisy Street	1905—April 27	In Practice July, 1901
26708	Duckett, Teresa Agnes	8 Woodbury Street	1908—June 23	C.M.B.
10981	Dunwoody, Elizabeth	Union Infirmary	1904 Dec. 22	In Practice July, 1901
13850	Foster, Sarah	14 East Street	1905—Feb. 23	Ditto
6954	Foxcroft, Alice	85 Bold Street	1904—Sept. 29	Ditto
5829	Fairbrother, Elizabeth	40 Pickup Street	" June 30	Ditto

TABLE XXXIX.—continued.

No.	Name.	Address.	Date of Enrolment.	Qualification.
6523	Gabbutt, Mary	187 Downham Street	1904—July 21	In Practice July, 1901
6524	Galloway, Selina Ann	72 Duke's Brow.....	" July 21	Ditto
5826	Gee, Margaret	79 Pendle Street	" June 30	Ditto
13009	Gibson Martha Kathleen	District Nurses Home.....	1905—Feby. 23	C.M.B.
3690	Gleeson, Annie	5 Park Road	1904—April 28	L.O.S., July 10, 1900
11058	Gordon, Ellen	10 Taylor Street	1905—Dec. 22	In Practice July, 1901
27389	Greenwood, Bridget	24 Emily Street.....	1908—Dec. 2	St. Mary's Hospital, C.M.P.
29429	Grinnshaw Florence	29 Brooklands Terrace	1910—	Blackburn Union. C.M.B.
10293	Hacking, Annie	14 Brothers Street	1904—Nov. 24	In practice July, 1901.
6004	Haworth, Mary.....	98 Haslingden Road	" July 21	Ditto
22142	Haworth, Margaret	106 Lower Audley Street.....	1905—April 27	C.M.B.
5824	Hoghton, Martha Jane	9 Bicknell Street.....	1904—June 30	In practice July, 1901.
7760	Houghton, Mary	42 Anvil Street	" Sept. 29	Ditto
6526	Hummer, Elizabeth	89 Balaclava Street	" July 21	Ditto
7300	Johnson, Edith Mary	24 Bicknell Street.....	" Sept. 20	Glasgow Maternity Hospital, Aug. 1, 1904

TABLE XXXIX.- continued.

No.	Name.	Address.	Date of Enrolment.	Qualification.
5630	Leigh, Elizabeth	91 London Road	1904—June 30	In Practice July, 1901
3819	Lightbown, Margaret	94 Livesey Branch Road	" April 28	St. Mary's Hospital, Manchester, March, 1899
16641	Lonsdale, Hannah ..	15 Oaklands Terrace, Cherry Tree.....	1905—Mar. 23	In Practice July, 1901
38268	Lancaster, Ruth C. P.	62 Revidge Road	1910—Feb. 21	C.M.B., 1910.
16461	McCall, Elizabeth Alice.....	122 London Road	1905—Mar. 23	In Practice, July 1901.
31752	Mitchell, Edith	609 Bolton Road.....	1910—June 25	C.M.B.
6527	Moore, Alice	82 Derby Street.....	1905—July 21	In Practice July, 1910.
5650	Newton, Mary	80 Whalley New Road	" June 30	L.O.S., February 26, 1904
6609	Nixon, Mary Alice ..	37 Goldhey Street	" July 21	In Practice July, 1901.
31772	Oates Margaret Ann.....	311 Bolton Road	1910—June 25	St. Mary's Hospital, Manchester, C.M.B., 1910
8593	Ormerod, Nancy	40 Hickory Street.....	1905—Oct. 27	In Practice July, 1901
30171	Parkington, Elizabeth ..	116 New Bank Road	1910—Feb. 21	C.M.B.
31952	Parrish, Elizabeth	152 Moss Suret ..	" Sept. 1	In Practice, July, 1901
7209	Peacock, Sarah Elizabeth	169 Whalley Old Road ..	1905—Sept. 29	Ditto
6072	Pearson, Caroline.....	111 Bonsall Street.....	1904—June 30	Ditto

TABLE XXXIX.—continued.

No.	Name.	Address.	Date of Enrolment.	Qualification.
1300	Polsue, Sophie.....	5 St. Andrew Street	1904—Jan. 28	C.M.B.
301344	Pickup, Clara	56 Bank Top	1910—Feb. 21	C.M.B., 1910.
5830	Riding, Rebecca	63 St. Thomas Street	1904—June 30	In Practice July, 1901
5935	Rimmer, Ellen	76 Artillery Street	„ June 30	Ditto
5938	Speight, Betsy Jane	16 Lord Byron Street	„ June 30	Ditto
27163	Sullivan, Emily	Union Workhouse.....	1908 Nov. 2	C.M.B.
27628	Thompson, Ellen	37 Alma Street	„ Nov. 2	C.M.B.
6076	Whalley, Jane Ellen.....	2 Elgee Street	1904 June 30	In Practice July, 1901
6238	Whittaker, Hannah	15 July Street	„ July 21	Ditto
6239	Wilson, Annie	40 Inkerman Street	„ July 21	Ditto
22892	Wood, Emma Lucy.....	178 Kedlam, Wilton	1905—Nov. 25	C.M.B.
5631	Wrigley, Mary	33 Stansfeld Street	1904—June 30	In Practice July, 1901
5939	Yates, Mary Alice	102 Newton Street	„ June 30	Ditto
30930	Yates, Sarah Louisa	49 Whittaker Street	1910—June 25	St. Mary's Hospital, Manchester, C.M.B., 1910

TABLE XL.—DEATHS IN CHILDREN DURING THE LAST TEN YEARS.

	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910
Puerperal Fever	9	11	5	3	10	5	12	2	7	8
Placenta Prævia—Flooding	4	4	2	4	3	4	1	4	3	4
Parturition .....	...	...	...	...	...	...	...	...	...	...
Puerperal Convulsions	5	4	4	...	2	3	...	5	3	5
Abortion—Miscariage	1	3	2	2	2	1	2	1	2	2
Other Accidents of Child Birth.....	2	2	12	6	11	2	11	4	5	2
Puerperal Mania .....	...	1	...	1	...	...	2	...	...	...
Puerperal Thrombosis .....	...	2	...	...	2	3	1	...	...	...
	12	16	20	13	20	13	17	16	20	21
Number of Puerperal Cases Notified	11	18	11	7	24	12	25	11	11	10

ERYSIPELAS.

During 1910, 90 cases of Erysipelas were notified and three deaths registered, giving a case mortality of 3.3 per cent.

During 1909, 94 cases were notified and two deaths registered

WHOOPIING COUGH.

There were 15 deaths from Whooping Cough, compared with 22 deaths during 1909, and 27 deaths during 1908.

They occurred in the age-periods as follows :—

0—1	1—5	5—10	10 and upwards.
6	9	0	0

INFLUENZA, BRONCHITIS, AND PNEUMONIA.

The number of deaths from Bronchitis and Pneumonia was 349, compared with 489 in 1909, and 402 in 1908; and the deaths from Influenza were 28, compared with 46 in 1909, and 34 in 1908.

The reduction in the number of deaths from Lung Diseases has already been mentioned under "Deaths."

The deaths from Bronchitis and Pneumonia in months occurred as follows :—

Jan.	Feb.	March.	April.	May.	June.
31	32	36	35	24	20
July.	Aug.	Sept.	Oct.	Nov.	Dec.
16	20	26	28	33	48

ALCOHOLISM.

During 1910, 6 deaths were certified as having been directly caused by Alcoholism and Delirium Tremens, compared with none during 1909. Of these six deaths, five were males and one was a female.

During 1910, 7 deaths were caused by Cirrhosis of the Liver, which is a disease frequently associated with Alcoholism, compared with 11 during 1909.

The following is an Analysis of the deaths from Alcoholism and Cirrhosis of the Liver, according to sex and age-periods :—

Age.	Males.	Females.	Total.
25—35	2	2	4
35—45	1	0	1
45—55	1	2	3
55—60	0	1	1
60—65	1	0	1
65—75	1	2	3
	—	—	—
	6	7	13

CANCER.

There were 127 deaths from Cancer during the year, compared with 107 during 1909, and 108 during 1908.

An analysis of deaths as to the kind of Cancer shows the numbers of the varieties of this disease, thus :—

Carcinoma	102
Malignant Disease	12
Sarcoma	7
Epithelioma	3
Rodent Ulcer	1
Papilloma	1
Scirrhus	1

On examining the death returns for 1910, it was found that Cancer affected the following parts of the body :—

Uterus	28
Stomach	26
Breast	20
Intestines	17
Liver	8

Rectum	7
Glands	3
Face	3
Lung	2
Gall Bladder	2
Œsophagus	2
Prostate	1
Thigh	1
Tongue	1
Trachea	1
Bladder	1
Ovaries	1
Not stated	3

CANCER DEATHS.

The investigation of Cancer Deaths, commenced in 1909, by Dr. Johnston, was continued in 1910 by Dr. Buchanan, and the following is an account of the work in this respect:—

Eighty-four houses were visited and 76 cases investigated. In the eight remaining cases the relatives had removed and could not be traced.

Of the 76 cases investigated, 18 were males, and 58 females.

AGES : MALES.

1 was 20 years of age.

3 were between 40 and 50 years of age.

4 " " 50 " 60 " "

7 " " 60 " 70 " "

2 " " 70 " 80 " "

1 was 81 years old.

AGES : FEMALES.

1 was 25 years of age.

7 were between 30 and 40 years of age.

17	„	„	40	„	50	„	„
9	„	„	50	„	60	„	„
14	„	„	60	„	70	„	„
10	„	„	70	„	80	„	„

The average age in the case of males was 57.7, while that of the females was 55.2.

LOCATION OF DISEASE.

Stomach	20
Stomach and Intestines	1
Uterus	9
Intestines	9
Rectum	6
Peritoneum	1
Male Genito—Urinary System	2
Liver	4
Breast	10
Breast and Liver	1
Breast and Œsophagus	1
Œsophagus	1
Gall Bladder	3
Trachea	1
Face	1
Upper Jaw	1
Lachrymal Duct	1
Tongue	1
Thigh	1
Lung	1
Lymphatic Glands	1

DURATION OF DISEASE.

9	lasted	1 to 6 months.
21	„	6 to 12 months.
20	„	1 to 2 years.
9	„	2 to 3 years.
1	„	3 to 4 years.
1	„	4 to 5 years.
2	„	5 to 6 years.
2	„	about 12 years.
11	were of uncertain duration.	

FAMILY HISTORY.

A positive history was ascertained in 12 out of 76 cases, as follows:—

Male, 49 years. Mother and aunt died of Cancer.

Male, 72 years. Brother and sister died of Cancer.

Female, 41 years. Mother died of Cancer.

Female, 43 years. Father died of Cancer of Bladder.

Female, 46 years. Aunt died 10 years previously of Cancer of Breast.

Female, 46 years. Sister died recently of Cancer of Breast.

Female, 48 years. Father had Cancer of Lip.

Female, 52 years. Aunt died of Cancer of Breast.

Female, 54 years. Sister died of Cancer.

Female, 61 years. Sister died of Cancer.

Female, 70 years. Father died of Cancer of Stomach.

Female, 71 years. Mother and daughter died of Cancer.

CASES ASSOCIATED WITH INJURY.

There were eight cases which may have been associated with previous injury :—

Male, 49 years. Cancer of Tongue. Irritation of a broken tooth.

Male, 40 years. Sarcoma of Inguinal Glands. Received injury to thigh just previous to onset of disease.

Male, 81 years. Cancer of Liver. Had suffered from gall-stones a few years before.

Female, 56 years. Cancer of Breast. Had previously had an abscess in the same breast.

Female, 65 years. Sarcoma of Breast. Previous injury to breast.

Female, 25 years. Epithelioma of Face. Had scratched a pimple on face.

Female, 69 years. Cancer of Liver. Fell downstairs four years before death and injured right side.

Female, 74 years. Sarcoma of Upper Jaw. Had been wearing badly-fitting false teeth.

In no case was it ascertained that alcohol had been taken to excess.

Three males had been very heavy smokers. One, who smoked a clay pipe, had Cancer of Tongue.

Several of the Female Cases took little or no exercise.

Diet in no case calls for special comment.

OCCUPATIONS.

Males :—

Cotton Manufacturer	1
Spinners	3
Weavers	2
Cutter	1
Labourers	2
Blacksmith	1
Road Foreman	1
Stonemasons	2
Grocers	2
Baker	1
Butcher	1
Compositor	1

Females :—

House Work,	20
Weavers	12
Winders	8
Charing	2
Grocers	2
No occupation	13
Dressmaker	1

Sanitary accommodation was generally satisfactory. In a few cases "smells" were complained of, but none were noticed at the time of visiting.

Only in four instances was there found a larder or pantry in which food alone was kept. As a rule it was stored on scullery shelves or in cupboards in the kitchen or living-room.

Dampness was observed in nine houses.

GROWTHS ON DOGS AND CATS.

No dog or cat was met with suffering from growths. Two cases were mentioned by the relatives :—

(No. 70) A kitten had a lump at the root of the tail. It wasted considerably, and, being in pain, was put to death.

(No. 40) Eight or ten years previously a collie dog was destroyed because it had foul-smelling sores about its ears.

PREVIOUS DEATHS FROM CANCER IN THE HOUSE.

A history of such was obtained in 2 cases:—

(No. 40) Previous tenant died eight years before of Cancer.

(No. 79) A woman who used to live at this house (three years since) has Cancer now.

DEATHS FROM CANCER—1889-1910.

Year.	Male.	Female.	Total.
1889	20	32	52
1890	14	24	38
1891	19	34	53
1892	14	38	52
1893	23	37	60
1894	23	34	57
1895	33	48	81
1896	25	56	81
1897	28	44	72
1898	36	58	94
1899	28	52	80
1900	33	65	98
1901	27	64	91
1902	40	51	91
1903	35	57	92
1904	33	74	107
1905	46	67	113
1906	36	72	108
1907	45	68	113
1908	43	65	108
1909	43	64	107
1910	33	94	127

TUBERCULOSIS.

There were 166 deaths from Tuberculosis during 1910, compared with 199 during 1909.

Of these 166 deaths, 110 were due to Phthisis or Tuberculosis of the Lungs.

During 1910 the death-rate from Tuberculosis was 1.21 per 1,000. and from Phthisis it was 0.80 per 1,000 living.

PHTHISIS.

During the year 1910, 75 notifications of Phthisis were received from medical men, 38 of which were males and 37 females, compared with 119 notifications received during 1909, and 136 during 1908.

The reduction in the number of notifications during 1910 is very striking. The voluntary notification of Phthisis in Blackburn is not a success.

Of these 75 notifications, 12 were received from the Infirmary, and 36 were private notifications.

The following Table shows the number of notifications and deaths during 1910 arranged in months :—

NOTIFICATIONS.

Jan.	Feb.	March	April	May	June
6	4	2	9	8	9
July	Aug.	Sept.	Oct.	Nov.	Dec.
7	7	3	2	7	11
Total, 75.					

DEATHS.

Jan.	Feb.	March	April	May	June
15	4	10	7	12	6
July	Aug.	Sept.	Oct.	Nov.	Dec.
7	7	7	10	10	15
Total, 110.					

Eighteen persons have been notified twice, and two three times, by different medical men, since the voluntary notification of Phthisis was instituted at Blackburn in 1901.

Thirty-nine of the deaths which occurred during 1910 had been reported during life.

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1908.

These Regulations came into force during 1909, and the following notifications have been received in accordance with these Regulations:—

FORM A.

Notifications from Medical Officers of Poor-Law Institutions of persons in their Institutions suffering from Phthisis	40
---	----

FORM B.

Notifications from District Medical Officers of the Blackburn Union, of persons suffering from Phthisis in their districts	8
--	---

FORM C.

Notifications from Superintendent Officers of Poor-Law Institutions, notifying the removal of a Phthisis patient from the Institution to another address	12
--	----

FORM D.

Notifications from Relieving Officers of change of address of Phthisis patients in their districts	1
--	---

After these cases have been notified, they have been visited by my Medical Assistant or myself, and suitable advice has been given.

Subsequent re-visits have been paid to the same patients by a nurse or by a voluntary lady helper, in order that it might be ascertained whether the advice previously given had been followed or not.

DEATHS FROM PHTHISIS.

Seventy-four deaths have been investigated by Dr. Buchanan. Of these 42 were males and 32 were females.

In two other cases of deaths from Phthisis no particulars were obtained, no one being in the houses at the time of visiting.

AGE-PERIODS AT WHICH DEATHS OCCURRED.

9 deaths occurred between 1 and 15 years of age.

21	„	„	15	„	25	„	„
26	„	„	25	„	45	„	„
18	„	„	45 years and upwards.				

DURATION OF ILLNESS.

In 12 cases the illness lasted 1 to 3 months.

„	10	„	„	„	3 to 6	„
„	12	„	„	„	6 to 12	„
„	18	„	„	„	1 to 2	years.
„	8	„	„	„	2 to 3	„
„	5	„	„	„	3 to 4	„
„	1	„	„	„	4	years.
„	1	„	„	„	10	„
„	1	„	„	„	20	„

„ 6 cases the length of illness was uncertain.

The length of time each person continued working after being infectedd, was, roughly, as follows:—

From 1 to 3 months 6 had continued working.

„ 3 to 6 „ 11 „ „

„ 6 to 12 „ 10 „ „

„ 1 to 2 years 6 „ „

„ 2 to 3 „ 3 „ „

„ 3 to 4 „ 2 „ „

For 8 years 1 had continued working.

The length of time in the remaining cases could not be ascertained.

SOURCE OF INFECTION.

In eight cases information pointing to personal infection was obtained.

1. (No. 6) Male, aged 20, ill seven months. Shared room seven months ago with a Phthisical person.

2. (No. 23) Male, aged 42, ill 12 months. Occasionally visited a person suffering from Phthisis, who died 16 months previously.

3. (No. 51) Male, aged 10, ill one month. Lived with sister who died of Phthisis five months before he became ill.

4. (No. 66) Male, aged 26, ill two to three years. Lived with sister who died of Phthisis two years previously.

5. (No. 73) Male, aged 27, ill two weeks. Lived two years previously with father and sister who have since died of Phthisis.

6. (No. 82) Female, 63 years of age, ill nine months. Lived with and nursed son who died two years before of Phthisis.

7. (No. 95) Female, aged 26, ill three years. Lived with and attended to mother, who died of Phthisis a few years previously.

8. (No. 108) Male, aged 46, ill for some years. Had previously lived with mother, sister, and brother, who died of Phthisis.

HEREDITARY PREDISPOSITION, ASCERTAINED FROM DEATHS FROM PHTHISIS.

Of the 74 cases investigated, 14 were ascertained to have a family history of Phthisis.

In one case the father, and in two cases the mother had died of Phthisis.

In three cases a brother, and in three cases a sister, had died of Phthisis.

In one case a grandmother had died of Phthisis.

In one case an aunt, and in one case the mother, an aunt, and uncle died of Phthisis.

In one case the mother, a sister and a brother, had died of Phthisis; in the fourteenth case a son had died from Phthisis.

SOCIAL HABITS AND STATUS.

Fourteen of the 74 cases had taken alcohol to excess.

One had been overworked.

In no case did the relatives admit that the deceased had been short of food.

ASSOCIATED RESPIRATORY DISEASES AMONGST COTTON
OPERATIVES SUFFERING FROM PHTHISIS.

Noted in three cases :—

1. (No. 24) Female, aged 24. Had had Pneumonia some years before.

2. (No. 56) Male, aged 16. Ill 12 months. Three years previously had an attack of Pneumonia.

3. (No. 88) Male, aged 59. Had Pneumonia nine years previously.

PREVIOUS ILLNESSES.

In ten cases the illness followed attacks of Pneumonia.

In five cases the patients had previously suffered from attacks of Bronchitis.

Heart Disease existed in three cases.

In two cases Whooping Cough, and in one instance Measles, preceded the onset of Phthisis.

The illness dated from attacks of Influenza in two cases, from an attack of Enteric Fever in one case, and in another from an Injury to the Chest.

One patient had suffered from Epilepsy all her life, two had had Anæmia, one had had acute Rheumatism and Endocarditis, and one illness dated from an Empyema.

PREVIOUS TUBERCULAR DISEASES IN PHTHISICAL PATIENTS.

No. 15. Male, 18 years of age. Four years ill. Tuberculous Knee for five years.

No. 42. Female, seven years of age. Twelve months ill. The illness began as a Tuberculous Meningitis.

No. 85. Male, three years of age. Had Tuberculosis of the Spinal Column.

INSANITARY CONDITIONS AND OVERCROWDING IN HOUSES CONTAINING PHTHISICAL PERSONS.

Number of rooms in a house :—

8 houses contained 3 rooms.			
35	„	„	4 „
15	„	„	5 „
7	„	„	6 „
2	„	„	7 „
2	„	„	8 „
1	„	„	9 „
1	„	„	14 „

Two cases were in Common Lodging-Houses, and one was in the Workhouse Infirmary.

The number of occupants in the remaining 71 houses is here shewn :—

5 houses each contained 2 persons.			
8	„	„	3 „
12	„	„	4 „
12	„	„	5 „
17	„	„	6 „
9	„	„	7 „
1	„	„	8 „
7	„	„	9 „

The average number of persons was 5.3 per house in the 71 houses.

The number of occupants was five or less in 37 of the houses.

Of the 17 houses containing 6 persons, one had 14 rooms, one was 8-roomed, one was 7-roomed, two were 6-roomed, five were 5-roomed, four were 4-roomed, and one had three rooms.

Of the 9 houses containing 7 persons, one was 5-roomed, six were 4-roomed, and the remaining two were 3-roomed houses.

The house in which were 8 persons had 4 rooms.

Three of the houses containing 9 persons had 5 rooms; the remaining 4 had 4 rooms.

The general sanitary condition does not call for special comment.

Of 72 houses—

51 were clean.

15 were fairly clean.

3 were dirty.

2 were dark and dirty.

1 was damp but clean.

Closet accommodation :—

48 had fresh-water closets.

4 had slop-water closets.

20 had pail-closets.

HOUSE INFECTION.

The possibility of house infection was met with in one instance :—

(No. 5) Male, 49; ill four months. Had lived in the house about nine months. Former tenant died in the house a few months previously. The supposed infected patient had no family history of Phthisis, but was intemperate, and had chest crushed in a mine three months before onset of illness.

PRECAUTIONS TAKEN.

At Home.

44 cases slept alone; no other person in the bedroom.

12 cases had separate beds, but shared bedroom.

5 cases were removed to the Workhouse and one to the Infirmary.

51 persons burnt their sputum after expectorating on to rags or paper, or into a special container.

At Work.

Two patients—both males—carried and made use of special sputum-containers whilst at work. They subsequently disposed of the sputum by burning.

PHTHISIS NOTIFICATIONS.

Of the notified cases of Phthisis investigated during the year, 23 are dead. Some of these were no longer alive at the time of enquiry. In two cases only very scanty particulars could be obtained.

The following analysis refers to the 23 notified patients now dead :—

SEX.

Fifteen were males, and eight were females.

Ages of males :—

1 was 17 years of age.

1 „ 18 „ „

1 „ 19 „ „

1 „ 21 „ „

1 „ 22 „ „

1 „ 28 „ „

1 „ 31 „ „

2 were 32 „ „

2 „ 48 „ „

1 was 50 „ „

2 were 53 „ „

1 was 56 „ „

Ages of females :—

1 was 21 years of age.

1 „ 22 „ „

1 „ 24 „ „

1 „ 26 „ „

1 „ 28 „ „

1 „ 32 „ „

1 „ 39 „ „

1 „ 41 „ „

DURATION OF ILLNESS AT THE TIME OF INQUIRY.

2	had been ill	3 months.
3	„	4 „
4	„	6 „
3	„	8 „
5	„	12 „
1	„	18 „
1	„	2 years.
2	„	3 „
1	„	5 „
1	„	for an indefinite period.

FAMILY HISTORY OF PHTHISIS.

In 11 cases a family history of Phthisis was ascertained :—

(1) Female, 22 years. Uncle died of Phthisis.

(2) Female, 21 years. Mother died of Phthisis.

(3) Male, 19 years. Mother died of Phthisis.

(4) Male, 17 years. Uncle and three aunts died of Phthisis.

(5) Male, 48 years. Aunt and three cousins died of Phthisis.

(6) Male, 53 years. Father, two brothers, and two sisters died of Phthisis.

(7) Male, 53 years. Aunts and uncles died of Phthisis.

(8) Male, 56 years. Mother and brother died of Phthisis.

(9) Female, 26 years. Brother and grandmother died of Phthisis.

(10) Female, 28 years. Mother died of Phthisis.

(11) Female, 24 years. Brother and sister died of Phthisis.

SOURCE OF INFECTION.

Personal infection may have been the cause in the following six cases :—

No. 38. Female, 21 years. Lived with mother, who died of Phthisis two years previously.

No. 70. Male, 53 years. Lived for a year with a Phthisical sister.

No. 83. Male, 56 years. Lived with mother and brother, both of whom died of Phthisis.

No. 90. Female, 26 years. Lived with brother, who died of Phthisis.

No. 92. Female, 28 years. Lived with and nursed her mother, who died of Phthisis.

No. 97. Female, 24 years. Lived with brother and sister, who died of Phthisis.

OCCUPATION.

Of the males :—

- 6 were weavers.
- 2 „ labourers.
- 1 was a spinner.
- 1 „ fireman.
- 1 „ shopkeeper.
- 1 „ tinplate-worker.
- 1 „ painter.
- 1 „ cooper.
- 1 „ van-driver.

Of the females :—

- 4 were weavers.
- 1 was a winder.
- 1 „ heald-knitter.
- 1 „ housewife.
- 1 had no occupation.

PREVIOUS ILLNESSES.

- 3 had Pneumonia.
- 5 „ Bronchitis.
- 1 „ Enteric Fever.
- 1 „ Enteric Fever and Chest Injury.
- 1 „ Anæmia.

HABITS.

Six of the males had taken alcohol to excess.

SANITARY CONDITION OF HOUSES.

- 2 houses had 3 rooms.
- 11 „ 4 „
- 3 „ 5 „
- 6 „ 6 „
- 1 house 8 „

Overcrowding occurred in four instances :—

(1) and (2). Six people occupied a 4-roomed house.

(3). Five people occupied a 3-roomed house.

(4). Eight people occupied a 4-roomed house.

SANITARY ACCOMMODATION.

- 18 houses had fresh-water closets.
- 3 houses had pail-closets.
- 1 house had a slop-water closet.
- 1 house had a privy-midden.

17 of the 23 houses were clean
 4 houses were fairly clean.
 2 houses were dirty.

PRECAUTIONS TAKEN AT HOME.

17 patients burned their sputum.
 13 patients slept alone.
 In 10 cases there was no isolation.

It was not definitely ascertained that any of the 23 patients took precautions at work.

One was removed to the Infirmary and five to the Workhouse.

Of the notified cases of Phthisis investigated, 18 are still alive—12 males and 6 females. In the case of five others, visits were made, but the patients either had gone away leaving no address, or had never lived at the address given. As a rule it was not possible to find a patient notified on Form "C," under the Public Health (Tuberculosis) Regulations of 1908, such patients having an objection to giving an accurate future address.

Ages of males :—

1	was	25	years	of	age.
2	were	34	„	„	
1	was	35	„	„	
2	were	38	„	„	
2	„	40	„	„	
2	„	43	„	„	
1	was	51	„	„	
1	„	60	„	„	

Ages of females :—

I was 18 years of age.

I „ 21 „ „

I „ 25 „ „

I „ 40 „ „

I „ 42 „ „

I „ 58 „ „

DURATION OF ILLNESS.

I was ill 3 months.

I was ill 4 months.

I was ill 7 months.

I was ill 8 months.

I was ill 9 months.

5 were ill 12 months.

I was ill 16 months.

2 were ill 2 years.

2 were ill 3 years.

2 were ill 4 years.

I was ill 25 years.

FAMILY HISTORY OF PHTHISIS.

Obtained in six instances :—

(1) No. 1. Male, 34 years. Father died of Phthisis.

(2) No. 13. Male, 60 years. Father died of Phthisis.

(3) No. 25. Female, 18 years. Father, sister, and uncle died of Phthisis.

(4) No. 35. Female, 21 years. Father died of Phthisis.

(5) No. 60. Male, 51 years. Mother, aunt, and three cousins died of Phthisis.

(6) No. 102. Female, 40 years. Father, mother, three sisters and eight brothers died of Phthisis.

PERSONAL INFECTION.

There was a possibility of such in four cases.

1. Female, 18 years (No. 25). Lived with sister, who died of Phthisis.

2. Female, 21 years (No. 35). Lived with father, who died of Phthisis.

3. Male, 51 years (No. 60). Has been ill for 25 years. Twenty-five years ago he lived with mother and aunt, both of whom died of Phthisis.

4. Female, 40 years (No. 102). Her father, mother, three sisters and eight brothers, with whom she used to live, were all Phthisical, and all of them are now dead.

OCCUPATIONS.

Of males :—

- 2 were weavers.
- 3 were labourers.
- 2 were tailors.
- 1 was a cotton-spinner.
- 1 was a boltmaker.
- 1 was a driller.
- 1 was a soldier.
- 1 was a hawker.

One of the tailors is now a window-cleaner, while the cotton-spinner is hawking, in order to get more fresh air.

Of the females :—

- 3 are weavers.
- 1 is a winder.
- 1 is a hawker.
- 1 is a charwoman.

At the date of enquiry, three males (boltmaker, window-cleaner, and hawker), and two females (hawker and char-woman) were following their respective occupations.

PREVIOUS ILLNESSES.

In one case there had been previous Bronchitis; in another there had been an Injury to Back and two attacks of Pneumonia; while a third had had pleurisy nine years before.

HABITS.

In five cases there was a definite history of alcoholism.

SANITARY CONDITIONS OF HOUSES.

Six houses had three rooms.

Eight houses had four rooms.

One had five, and one six rooms.

One patient was in a common lodging-house, and one occupied a room in a house let in lodgings.

Leaving out of account the two last-mentioned cases, there were 78 persons in 16 houses, giving an average of 4.8 people to a house.

Overcrowding occurred in four instances:—

(1) Seven persons occupied a 3-roomed house.

(2) Nine persons occupied a 3-roomed house.

(3) and (4) In two cases eight persons occupied a 4-roomed house.

SANITARY ACCOMMODATION.

11 houses had fresh-water closets.

6 houses had pail-closets.

1 house had a slop-water closet.

CLEANLINESS.

8 houses were clean.

8 houses were fairly clean.

2 houses were dirty.

PRECAUTIONS TAKEN AT HOME.

In four cases there was no attempt at isolation.

Six persons slept alone.

One was isolated with another case of Phthisis.

In six instances the bedroom was shared with others.

Fourteen of the 18 patients burnt their sputum.

Four patients had been to the Workhouse Infirmary, and one was still there at the date of enquiry.

One patient had spent six months in Meathop Sanatorium; he said he had derived much benefit from his stay in that institution. Two years ago this patient was thrown out of work, and for some time he did not get enough food. His illness began a month or two later.

Only in two cases was it ascertained that patients used sputum-flasks at work.

It will be remembered that during the latter part of 1909, arrangements were made that one of the nurses from the District Nurses' Home should visit cases of Consumption.

I sent, amongst other names, a list to this Home of all the patients who returned to Blackburn from the Meathop Sanatorium at Grange, where we have subsidised six beds.

It was considered very important that these patients should be visited by a nurse at home in order that they might be urged and encouraged to carry out measures for the preservation of their own health, concerning which they had received definite instructions and practical demonstration at Grange.

This important work has been continued during 1910.

In all, 67 cases were visited and 260 visits paid. Forty of these 67 cases had been inmates of Meathop Sanatorium. Four cases died who had been sent to this Sanatorium.

The nurse feels that the majority of the patients visited, especially those who have returned from the Sanatorium, welcome her visits, and are thereby encouraged to persevere with the treatment.

This voluntary assistance from the District Nurses' Home is a great help to the Public Health Department.

The following are particulars respecting cases of Phthisis who have been admitted to and discharged from the Meathop Sanatorium :—

Case 1.—R.T., age 14, admitted on November 17th, 1909, and was discharged on January 18th, 1910. Her weight on admission was 5st., and on discharge 5st. 8 $\frac{3}{4}$ lbs. She had therefore gained 8 $\frac{3}{4}$ lbs. No tubercle bacilli were found in the sputum. She was very much improved on discharge from the Sanatorium.

Case 2.—H.S., age 36; admitted on August 30th, 1909, and discharged on January 14th, 1910. His weight on admission was 9st. 3lbs., and on discharge 9st. 8 $\frac{1}{2}$ lbs. He had therefore gained 5 $\frac{1}{2}$ lbs. Tubercle bacilli were found in the sputum. He was very much improved on discharge.

Case 3.—A.P., age 21; admitted August 10th, 1909, and discharged on January 14th, 1910. His weight on admission was 9st. 3½lbs., and on discharge 9st. 11lbs. He had therefore gained 7½lbs. Tubercle bacilli were found in the sputum. He was very much improved on discharge.

Case 4.—B.H., male, age 27. Admitted November 9th, 1909, and discharged February 18th, 1910. His weight on admission was 8st., and on discharge 8st. 10½lbs. He had therefore gained 10½lbs. There were no tubercle bacilli found in his sputum. On discharge he was greatly improved.

Case 5.—A. W., female, age 30. Admitted November 17th, 1909, and discharged February 18th, 1910. Her weight on admission was 7st. 7lbs., and on discharge 8st. 8lbs. She had therefore gained 15lbs. There were no tubercle bacilli found in her sputum. On discharge she was greatly improved.

Case 6.—H.M., male, age 17. Admitted November 13th, 1909, and discharged March 5th, 1910. His weight on admission was 6st. 4lbs., and on discharge 7st. 9lbs. He had therefore gained 19lbs. There were no tubercle bacilli found in his sputum. On discharge he was greatly improved and fit for work.

Case 7.—J.D., male, age 28. Admitted January 14th, 1910, and discharged April 9th, 1910. His weight on admission was 11st. 3½lbs., and on discharge 11st. 9¾lbs. He had therefore gained 6¼lbs. There were no tubercle bacilli in his sputum. The disease was arrested.

Case 8.—J.S., male, age 38. Admitted February 21st, 1910; discharged April 20th, 1910. His weight on admission was 8st. 13lbs, and on discharge 9st. 9lbs. He had therefore gained 10lbs. There were no tubercle bacilli in his sputum. On discharge he was greatly improved and fit for work.

Case 9.—A.H., female, aged 50. Admitted January 12th, 1910, and discharged May 21st, 1910. Her weight on admission was 10st. 4 $\frac{3}{4}$ lbs., and on discharge 10st. 6 $\frac{3}{4}$ lbs. She had therefore gained 2lbs. Tubercle bacilli were present in her sputum. On discharge she was very much improved.

Case 10.—J.F., male, age 27. Admitted January 14th, 1910, and discharged May 31st, 1910. His weight on admission was 9st. $\frac{1}{2}$ lb., and on discharge 10st. 2lbs. He had therefore gained 15 $\frac{1}{2}$ lbs. Tubercle bacilli were present in his sputum. On discharge he was very much improved and able to resume work.

Case 11.—M.B., female, age 26. Admitted February 21st, 1910, and discharged June 6th, 1910. Her weight on admission was 6st. 10 $\frac{1}{2}$ lbs., and on discharge 7st. 11lbs. She had therefore gained 14 $\frac{1}{2}$ lbs. Tubercle bacilli were present in her sputum. On discharge she was very much improved.

Case 12.—C.F.B., male, age 18. Admitted March 5th, 1910, and discharged May 21st, 1910. His weight on admission was 8st. 11 $\frac{3}{4}$ lbs., and on discharge 9st. 6 $\frac{3}{4}$ lbs. He had therefore gained 9lbs. Tubercle bacilli were present in his sputum. On discharge he was greatly improved.

Case 13.—P.D., male, age 45. Admitted April 9th, 1910, and discharged July 13th, 1910. His weight on admission was 10st. 7lbs., and on discharge 11st. 3lbs. He had therefore gained 10lbs. Tubercle bacilli were present in his sputum. On discharge he was greatly improved and able to resume work.

Case 14.—J.S., male, age 33. Admitted April 21st, 1910, and left the Sanatorium on May 3rd, 1910, without notice from the Medical Superintendent.

Case 15.—T.F., male, age 24. Admitted May 7th, 1910, and discharged June 14th, 1910. This patient was discharged for insubordination.

Case 16.—W.B., male, age 37. Admitted May 21st, 1910; left June 19th, 1910. This patient left without notice from the Medical Superintendent.

Case 17.—E.J.M., female, age 34. Admitted May 31st, 1910, and discharged August 20th, 1910. Her weight on admission was 8st. $1\frac{1}{2}$ lbs., and on discharge 9st. 1lb. She had therefore gained $13\frac{1}{2}$ lbs. Tubercle bacilli were not present in her sputum. She had improved considerably on discharge.

Case 18.—I.F., female, age 23. Admitted June 18th, 1910, and discharged September 21st, 1910. Her weight on admission was 7st. 12lbs., and on discharge 8st. 1lb. She had therefore gained 3lbs. Her condition on discharge was not improved.

Case 19.—C.T., female, age 26. Admitted on June 4th, 1910, and discharged on October 14th, 1910. Her weight on admission was 7st. $5\frac{1}{2}$ lbs., and on discharge 8st. $1\frac{1}{2}$ lbs. She had therefore gained 10lbs. Tubercle bacilli were found in the sputum. She was very much improved on discharge.

Case 20.—A.J.Y., female, age 32. Admitted on June 22nd, 1910, and discharged on October 14th, 1910. Her weight on admission was 7st. 11lbs., and on discharge 8st. $9\frac{3}{4}$ lbs. She had therefore gained $12\frac{3}{4}$ lbs. Tubercle bacilli were found in the sputum. She was not much improved on discharge.

Case 21.—C.M., female, age 20. Admitted July 14th, 1910, and discharged on October 14th, 1910. Her weight on admission was 8st. $12\frac{1}{2}$ lbs., and on discharge 9st. 12lbs. She had therefore gained $13\frac{1}{2}$ lbs. Tubercle bacilli were found in the sputum. She was very much improved on discharge.

Case 22.—M.C., female, age 34. Admitted June 6th, 1910, and discharged October 14th, 1910. Her weight on admission was 7st. $10\frac{3}{4}$ lbs., and on discharge 8st. $12\frac{1}{2}$ lbs. She

had therefore gained 15 $\frac{3}{4}$ lbs. Tubercle bacilli were found in the sputum. She was very much improved on discharge.

Case 23.—M.McV., female, age 24. Admitted October 14th, 1910, and discharged November 17th, 1910. No trace of Phthisis could be found.

In addition to the above, many other patients have been examined, but have been rejected because I considered that they were not suitable cases for Sanatorium treatment.

DISINFECTION IN PHTHISIS.

After each death from Phthisis, I sent a letter stating that, for the protection of the health of the inmates, the house should be disinfected thoroughly, and offering to send men to carry out this work at the expense of the Health Department.

This offer was accepted in 55 instances out of the 110 deaths, as compared with 83 out of 136 deaths during 1909.

Sixty-two rooms at 55 houses were disinfected, and also the following articles were removed and disinfected :—

- 41 Beds.
- 20 Mattresses.
- 35 Bolsters.
- 60 Pillows.
- 33 Sheets.
- 32 Blankets.
- 42 Quilts.
- 30 Carpets.
- 11 Suits of Clothes.
- 74 Sundries.

The following articles were destroyed by consent of the owners :—6 mattresses, 2 bolsters, 2 pillows, 2 carpets, and 5 sundries.

TABLE XLI.

Deaths from Tuberculosis for Ten Years.

	1910.		1909.		1908.		1907.		1906.		1905.		1904.		1903.		1902.		1901.	
	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate
General Tuberculosis ..	12	0.08	9	0.06	15	0.11	8	0.05	14	0.10	17	0.12	10	0.07	8	0.06	18	0.13	22	0.17
Tabes Mesenterica.....	22	0.16	23	0.16	28	0.20	36	0.26	34	0.25	27	0.20	40	0.30	28	0.21	24	0.18	35	0.27
Acute Hydrocephalus & Tubercular Meningitis	15	0.10	22	0.16	16	0.11	36	0.26	24	0.17	33	0.24	28	0.21	47	0.35	51	0.39	23	0.18
Phthisis	110	0.80	136	0.99	148	1.09	133	0.98	124	0.92	142	1.06	145	0.94	122	0.93	103	1.25	150	1.17
Other Forms	7	0.05	9	0.06	10	0.07	9	0.06	6	0.04	7	0.05	8	0.06	8	0.06	6	0.04	12	0.09
Total	166	1.21	199	1.46	217	1.60	222	1.65	202	1.51	226	1.70	211	1.59	213	1.62	262	2.01	242	1.89

FACTORIES AND WORKSHOPS.

The Factory and Workshop Act of 1901 has again been well administered during the year, and many important improvements have been carried out, especially at factories.

One of my inspectors, namely, Inspector Kenyon, devotes his whole time to these important provisions, and the following is an account of his work for 1910 :—

There are 821 workshops, containing 988 rooms, of which 44 are underground, on the register for the year ending December 31st, 1910. These include 55 domestic workshops and 80 new tenants, from whom notices of occupation have been received, thus showing a decrease of 94 after the register has been corrected and the factories and removals deducted.

The approximate number of males employed in these workshops is 1,498, and the number of females 1,100, as compared with 1,725 males and 1,206 females in 1909.

The inspections of the above workshops have slightly increased, and the visits to factories have decreased. This is owing to the amount of work in progress at factories being less. The visits to factories numbered 290, and the visits to workshops 1,554, as compared with 414 and 1,526 visits respectively to factories and workshops during 1909.

A summary of 3,236 visits may be seen in Table XLII.

The 283 defects found have been set forth in Table XLIV., of which 251 have been remedied in Table XLIII., the 32 defects outstanding being chiefly in connection with sanitary conveniences in factories, many of which, it is expected, will be remedied before the close of the present year (1911).

It will be noted that the results obtained are greater during the year 1910, viz. :—Defects found, 283 ; remedied, 251 ; outstanding, 32. As compared with 1909, viz. :—Defects found, 388 ; remedied, 325 ; outstanding, 63.

I would point out that so far it has been unnecessary to resort to legal proceedings in order to get the defaulters to comply with my notices to remedy the defects found.

A summary of the defects found and remedied at factories is set forth in Tables XLV. and XLVI.

1.—SANITARY CONDITIONS AT WORKSHOPS.

(a) CLEANLINESS.

Eight workshops were found to have dirty floors or windows.

No workshops were found to have dirty yards, and 45 rooms required limewashing at the Inspector's visit, as compared with 68 in 1909.

(b) AIR SPACE.

One room was found to be overcrowded, as compared with two in 1909.

(c) VENTILATION.

Eighteen workrooms were found to be deficient in ventilation or the means of ventilation were not maintained, compared with ten in 1909, eight in 1908, eight in 1907, none in 1906, and ten in 1905.

Eight of the above workrooms were visited by H.M. Inspector and samples of air were collected, which showed an excessive amount of C.O.₂ present. These were notified to me, and notices were sent for the nuisances to be remedied.

In addition to the above, eleven gas stoves had been fixed and means for carrying away the fumes generated had not been provided.

(d) DRAINAGE OF FLOORS ON WHICH WET PROCESSES ARE
CARRIED ON.

These processes include tripe-boiling establishments, laundries, etc., and the drainage of these floors has been so satisfactory that there has only been cause for complaint in two instances, namely, tripe-boiling establishments where the floors had become loose and broken.

SANITARY CONVENIENCES IN WORKSHOPS.

The following is the character of the sanitary conveniences at the various workshops :—

682 Water-Closets.

186 Pail-Closets.

1 Privy-Midden.

These figures show some improvement as compared with
1909 :—

735 Water-Closets.

224 Pail-Closets.

2 Privy Middens.

Notices outstanding at the end of the year 1909 were in connection with the following requirements at 14 factories :—

Additional sanitary accommodation required 16

Repairs or reconstruction of sanitary conveniences
required 42

Defective urinals 4

Other defects not enumerated here are shown in Table
XLIV.

During 1910 notices for the provision of the following requirements were issued to nine factories and four workshops, viz. :—

Additional sanitary accommodation at factories...	9
Additional sanitary accommodation at workshops.	4
	<hr/>
	13
	<hr/>
Repairs or reconstruction of sanitary conveniences at factories	53
Repairs or reconstruction of sanitary conveniences at workshops	5
	<hr/>
	58

The following statement shows, at a glance, the number of additional water-closets provided and the reconstructions carried out during 1910; and also the number of outstanding defects at the end of the year :—

	Additional sanitary conveniences required.	Completed during 1910.	Outstanding defects at the end of 1910.
At the end of 1909. F...	16	10	6
During 1910. F	9	8	1
.. .. W.	4	4	0
Reconstructions required—			
At the end of 1909. F...	42	19	23
During 1910. F	12	8	4
.. .. W.	5	4	1
	<hr/>	<hr/>	<hr/>
	88	53	35

Outstanding defects to sanitary conveniences at the end of the year 1910:—

35 Sanitary Conveniences.

SANITARY CONVENIENCES IN FACTORIES.

The following appears in Section 5, Factory and Workshop Act, 1901:—

(1) Where it appears to an Inspector that any act, neglect, or default in relation to any drain, water-closet, earth-closet, privy, ashpit, water supply, nuisance, or other matter in a factory or workshop, is punishable or remediable under the law relating to Public Health, but not under this act, that Inspector shall give notice in writing of the act, neglect, or default to the District Council in whose district the factory or workshop is situate, and it shall be the duty of the District Council to make such inquiry into the subject of the notice, and take such action thereon as seems to that Council proper for the purpose of enforcing the law, and to inform the Inspector of the proceedings taken in consequence of the notice.

Forty-eight notifications under the above (Section 5, Factory and Workshop Act, 1901) have been received from H.M. Inspectors. viz.:—Thirteen of these were for factories and thirty-five for workshops, as follows:—

NOTIFICATIONS FROM H.M. INSPECTOR OF FACTORIES WITH RESPECT TO FACTORIES.

GRIMSHAW PARK.—“Insanitary closet accommodation in spinning mill. The closets are merely fall pipes, leading to cesspool, and effluvia is given off. They should be converted to properly-trapped water-closets.” A letter was sent, but there being no sewer available, nothing has been done.

CLEAVER STREET.—“W.C. defective—no water-flush at present.” The burst waterpipe had been repaired after the visit of H.M. Inspector. Notice not required.

CLEAVER STREET.—“W.C. defective basin full of excreta through absence of water for flushing; said to be due to a burst pipe.” The burst waterpipe had been repaired after the visit of H.M. Inspector. A notice not required.

CARDWELL PLACE.—“W.C. choked up with excreta. No flushing arrangements ever put in.” Notice was sent and the necessary work was carried out.

RANDAL STREET.—“Sanitary accommodation for women is unsuitable in that it is not entirely separate from that used by men.” Notice was sent and satisfactory alterations were made.

CICELY STREET.—“Strong effluvia from four closets used by females.” Notice was sent, and the existing privies were converted to seven modern water-closets.

WHALLEY BANKS.—“No sanitary accommodation yet provided.” Notice was sent, and a pedestal wash-down water-closet was provided.

EWOOD.—“The closet used by the women was found insanitary, apparently through infrequent scavenging.” The insanitary conditions had been remedied before my inspector’s visit. A letter was sent to the Cleansing Superintendent, drawing his attention to the matter.

ALMA STREET.—“The convenience used by the young girls here is unsuitable, in that it is practically in the workroom and close to the part of the room where men work. There is no separate accommodation for the sexes.” A notice was sent, and additional ventilation was provided for the closet, an intervening ventilated space was erected between

the w.c. and the workroom, and arrangements were made for the few males employed to have the use of a sanitary convenience on the first floor.

LARKHILL.—“ Grid in cellar, leading to main sewer, apparently untrapped.” All the drains in connection with this factory were tested, and proved to be defective. A notice was sent for them to be relaid, and the cellar re-flagged. Not yet started.

EDEN-STREET.—“ A W.C. has been erected, but no proper flushing arrangements yet made, no water being laid on.” This matter has been referred to the Town Clerk.

CANTERBURY-STREET.—“ Defective flushing arrangement to sanitary convenience; broken bowl causing overflow of water on floor.” Notice was sent to repair the defective pedestal water-closet, but the work has not yet been started.

NORTHGATE.—“ Sanitary convenience for women opening directly from workroom.” Notice was sent to disconnect W.C. from the workroom by means of an intervening ventilated space. Work not yet started.

In addition to the above notifications received from H.M. Inspectors, the following complaint has been sent to me from another source, and has been investigated by my Inspector :—

MILL HILL.—“ Sanitary conveniences in an unsatisfactory state.” Notice was sent and the several defects were remedied.

The following is a list of Outstanding Notices at the end of the year 1909, and of work carried out during 1910 in connection with factories :—

COBDEN-STREET.—“ Sanitary conveniences not separate from mule-rooms.” Notice was sent and a portion of the work required was done.

BACK COURT-STREET.—“ Sanitary conveniences are unsatisfactory.” Notices have been sent, but the work has not been started.

HARWOOD-STREET.—“ Sanitary accommodation insufficient; four for 140 females, four for 98 males.” The mill has changed hands, alterations to the closets not carried out.

GUIDE.—“ Sanitary accommodation defective.” Notice was sent, and six new W.C.’s for females, five new W.C.’s for males, and a urinal have been completed to my satisfaction.

GORSE-STREET.—“ Sanitary accommodation defective.” This notice was sent in relation to the fittings of the water-closets, and is now partially completed.

GOIT-STREET.—“ Arrangement of closet and seat unsatisfactory.” The necessary work has not yet been started.

HART-STREET.—“ Sanitary conveniences insanitary by reason of insufficient ventilation and untrapped soil-pipe and darkness. There were effluvia in the workroom at the time of the visit.” Notice was sent, and two W.C.’s for females, two W.C.’s and a urinal for males, were erected, and the insanitary closets in the mule-rooms have been converted to wash-down pedestal water-closets, suitably ventilated and disconnected.

ALBION-STREET.—“ Closets in spinning-rooms not ventilated to outside; effluvia very evident.” Notice was sent requiring the spinning-room sanitary conveniences to be lighted and ventilated to the external air, and for them to be disconnected from the workrooms. It is proposed to erect a new range of sanitary conveniences in the yard, but the work has not yet been started.

WHALLEY BANKS.—“ No sanitary accommodation, 6 to 10 employees.”

WHALLEY BANKS.—“ No sanitary accommodation; 4 males employed.” Notice was sent to provide a suitable sanitary convenience; a pedestal wash-down water-closet has been erected for the use of the employees at the two above-mentioned factories.

MILL HILL.—“ The sanitary conveniences for women are unsuitable, being without separate doors to each convenience; six in the shed (three for cardroom, two for ring-spinners.)” Notice was sent requiring the necessary work to be carried out. The matter is still in abeyance.

NOTIFICATIONS FROM H.M. INSPECTOR OF FACTORIES WITH RESPECT TO WORKSHOPS.

FURTHERGATE.—“ Workroom does not appear to be sufficiently ventilated.” Two permanent ventilators fixed on receipt of notice.

ORDNANCE-STREET.—“ The means of ventilation provided at this bakehouse appear to be insufficient, inasmuch as a sample of air collected therein, during night-work, on November 27th, 1909, on analysis, gave 25.8 parts of carbonic acid (C.O. 2) present in 10,000 volumes of air.” Notice was sent, and the existing means of ventilation were repaired.

KING WILLIAM-STREET.—“ Insufficient means of ventilation provided in machine-room; no outlet in roof.” Notice was sent, and a large ventilator was fixed in the roof.

NORTHGATE.—“ The ventilation of the workshop, appears to have been defective or not maintained, when a sample of air was collected on February 9th last. This sample contained 12.7 volumes of C.O. 2 per 10,000 volumes of air.

This condition was probably due to insufficient use of the means provided, i.e., the skylight ventilator was closed, and only one window was slightly open. A freer use of these means seems necessary." A letter was sent drawing their attention to Section 7, Factory and Workshop Act, 1901, which, I believe, had the desired effect.

PARK-ROAD.—" Oil lamp, without a flue for carrying away the products of combustion, used for warming workroom. Strong smell given off. The provision of a flue, or other more satisfactory heating appliance is desirable." The use of the stove was discontinued.

PRESTON NEW-ROAD.—" Means for carrying off the products of combustion of the gas stove used for heating irons, not provided." A suitable cover was provided for the stove on receipt of notice.

NAB-LANE.—" Workshop does not appear to be sufficiently ventilated. Analysis of a sample of air collected 11-10 a.m., on 24th February, gave 12.3 volumes of carbonic acid present in 10,000 volumes of air." Means of ventilation were provided on receipt of notice.

PARK-ROAD.—" Workshop does not appear to be sufficiently ventilated. Analysis of a sample of air collected at 10-50 a.m., on 1st March, gave 21.7 volumes of carbonic acid present in 10,000 volumes of air." No notice sent, as the probable source of the excessive amount of carbonic acid present had been removed.

PRESTON NEW-ROAD.—" Workshop appears not to be sufficiently ventilated. A sample of air collected from the centre of the room at 8-35 p.m., on 4th March, gave 31.3 volumes of carbonic acid present in 10,000 volumes of air. At that time two gas-jets were in full use, also an unventilated gas-heater for warming irons." Notice was sent, and means of ventilation were provided. The cover for the stove was on order under a previous notice, and has since been fixed.

NORTHGATE.—“ Midden adjoining staircase leading to workshop gives off very strong smell in early morning.” The midden has been abolished, and sanitary metal ash-bins substituted.

TOWN HALL-STREET.—“ Stove for heating irons in tailors’ room not ventilated to outside.” A suitable cover had been provided.

NEW MARKET-STREET.—“ Separate sanitary accommodation not provided for the sexes. Workroom does not appear to be sufficiently ventilated. No provision made for removing fumes arising from gas-stove used for heating irons.” The above defaults were remedied on receipt of notice.

KING WILLIAM-STREET.—“ Workroom appears to require cleansing.” Cleansed after visit. Work carried out on receipt of notice.

VICTORIA-STREET.—“ Sanitary convenience not provided.” Means of access were provided to an existing sanitary convenience.

FLEMING-SQUARE.—“ The W.C. which is common to other surrounding workshops, is in a defective state and unfit for use, caused by a blocked pipe.” The matter had been remedied before the receipt of the notification.

BANK TOP.—“ Flueless gas-stove used for warming workroom. Workroom appears to require lime-washing.” A letter was sent, and the necessary work was carried out.

ACCRINGTON-ROAD.—“ No sanitary conveniences are provided; one male and three females are employed.” Satisfactory arrangements were made for the workpeople to have the use of two adjoining sanitary conveniences.

PRESTON NEW-ROAD.—“ No provision is made for the removal from the workrooms (millinery and dressmaking) of the fumes arising from the gas-irons.” Notice was sent, and the gas-heated stoves were fixed immediately under the flues.

CHURCH-STREET.—“ Walls of workroom, and underneath tables require cleansing, and walls also appear to require lime-washing.” The necessary work was carried out on receipt of notice.

HIGHER EANAM.—“ Ceiling of workroom appears to require cleansing.” Cleansed on receipt of notice.

PRESTON NEW-ROAD.—“ Means for the removal, from work-room, of the fumes arising from gas-irons, not provided.” Notice was sent, and a suitable cover provided for the stove.

CHAPEL-STREET.—“ Separate sanitary conveniences not provided for the sexes.” This notice relates to a workshop in Clayton-street, and not as sent in. Arrangements were made for females to use the sanitary convenience in the yard, which had recently been given up by the hotel proprietor.

CHAPEL-STREET.—“ Separate sanitary conveniences are provided for the sexes, but the convenience set apart for the females is not provided with door-fastenings. The surroundings of the sanitary conveniences are in a wet state, caused by the want of proper means for carrying off the waste water, etc., from water-tap in close proximity.” Notice sent and the defects remedied.

LARKHILL.—“ Sanitary conveniences not provided.” A letter was sent, on the receipt of which the occupier left the premises. Now not a workshop.

KING-STREET.—“ Ground floor of workshop appears to require cleansing and limewashing.” The necessary work was carried out before my Inspector visited.

REDLAM.—“ Bakehouse does not appear to be sufficiently ventilated.” Notice was sent, and two permanent gin. by 6in. ventilators have been fixed.

NEW WELLINGTON-STREET.—“ W.C. is provided, but not effectively made off from workroom, nor provided with water-flush.” Notice was sent requiring the necessary screen for W.C., etc., and the work was done.

NEW WELLINGTON-STREET.—“ W.C. chamber is not effectively screened off from workroom.” This notification followed immediately after the one dealt with above. No further notice sent.

STEPHEN-STREET.—“ To make off, more effectively, the W.C. chamber in workroom.” Notice was sent requiring the necessary screen for W.C., and a temporary screen has been erected.

MARKHAM-STREET.—“ Sanitary convenience not provided.” Satisfactory arrangements were made for the two employees to have the use of an adjacent sanitary convenience.

RAILWAY-ROAD.—“ W.C. in workroom on second floor, in which three men are employed, is not ventilated to outer air.” Notice was sent for the necessary ventilation to be carried out. In hand.

LARKHILL.—“ Insufficient means of ventilation provided in the front dressmaking workroom on the upper floor, or the means of ventilation are not made use of.” Notice was sent for two permanent ventilators to be fixed. In hand.

WEIR-STREET.—“ The W.C. chamber should be more effectively made off from workroom, and the W.C. ventilated to the outer air.” Notice was sent, and the matter is having attention.

RAILWAY-ROAD.—“ The means of ventilation appear insufficient or insufficiently used. Samples of air collected in cutting and machine-rooms, on December 10th, on analysis, revealed 12.2 and 13.7 parts of C.O.₂ present in 10,000 volumes.” A letter was sent, drawing attention to the closed condition of the ventilators, which I think will have the desired effect.

TOWN HALL-STREET.—“ Means of ventilation in the tailoring workroom apparently not maintained in use, as all were closed when a sample of air was collected at 3-22 p.m., on December 12th. This sample, on analysis, gave 15.1 volumes of C.O.₂ present in 10,000 volumes of air.” A letter was sent drawing their attention to the closed condition of the means of ventilation and also requiring the defective cover for the gas-stove to be repaired. In hand.

UNDERGROUND ROOMS.

There are 44 underground workrooms in the Borough, including those used by bakers, retail bakers, etc., as compared with 52 in 1909.

BAKEHOUSES.

There are 157 names on the Workshop Register as bakers, which include wholesale bakers, retail bakers, domestic retail bakers, and sugar-boilers.

They occupy 177 rooms, of which five are underground.

114 males and 252 females are employed in the baking industry of this town.

In 20 bakehouses both sexes are employed, showing an increase of three as compared with 1909.

25 notices have been issued with regard to insanitary conditions and defects.

UNDERGROUND BAKEHOUSES.

There were 21 underground bakehouses in the Borough at the end of 1903, which, under Section 101 of the Factory and Workshop Act, 1901, were reduced to 12 during 1904, and which have been further reduced to six, consisting of eight rooms at the end of 1906. No change has been made since that time, as they were made satisfactory to the Sanitary Authority. Two of the above underground bakehouses are at present unoccupied; they contain three rooms.

In use at the end of 1903	21
Closed during 1904	9
" " 1905	5
" " 1906	1
" " 1907	0
" " 1908	0
" " 1909	0
Untenanted at the end of 1910	2
	— 17
	—
In use at the end of 1910	4

During the year 1910 the illegal occupation of two underground bakehouses has been discontinued.

LIGHTING OF WORKSHOPS.

The lighting of 534 workrooms is over 1-70th of the total cubic space.

WORKPLACES.

The term "Workplace" is not defined in the Act, but it includes any place where work is done permanently, and where people assemble together to do work permanently of some kind or other.

It also includes places where two or more persons meet regularly to perform some work, such work not being in the making, altering, repairing, ornamenting, finishing, or adapting for sale of any article.

In connection with these places, 399 visits have been made for the purpose of seeing that the provisions of the Factory and Workshop Act had been complied with, and four notices were sent recommending the following 10 defects to be remedied:—

- 1 Drain blocked.
- 1 Insufficient downspout; and defective drainage.
- 1 Defective slop-water pipe.
- 2 Defective gullies and dishstones.
- 1 Closet in want of repair.
- 1 Insufficient closet accommodation.
- 3 Without ash receptacles.

10

FOOD-PREPARING PLACES.

Under this heading are included all pork butchers' shops and other places (not including workshops) in which meat pies, black-puddings, sausages, potted meats, tongues, etc., are prepared for human consumption.

During the year 248 visits have been paid to these places, as compared with 212 in 1909.

RESTAURANTS.

The kitchens of restaurants, hotels, and dining-rooms are included in the definition of "Workplaces," which is a term used in the Factory and Workshop Act, 1901.

The power to inspect these places is given in the public Health Act (Sections 2 and 47), and in the Factory and Workshop Act (Section 2).

The inspection of these places has been included in the visits to the food-preparing places.

THE RECORD OF OUTWORKERS.

The improvement noticeable last year in the sending in of the necessary lists, has somewhat fallen off. During the year 1910, I received 48 lists of outworkers twice during the year, and 25 were sent in once.

156 visits were paid to outworkers' premises, and two defects found, viz., one water-closet drain blocked and one defective flushing cistern. Notices were issued and the defects were remedied forthwith.

MARINE STORE DEALERS.

I have reported fully on this matter in previous reports.

I would again bring before your notice the opinion that it would be a great advantage if all marine store dealers were subject to registration, and if bye-laws were made for regulating the duration of the licence.

Insanitary conditions on their premises could then be dealt with more effectually.

During the year it was necessary to send notices to marine store dealers with respect to the following defects :—

- 1—Open and cleanse W.C. drain.
- 2—Repair flushing cisterns.
- 1—Provide door-fastenings to females' W.C.
- 1—Provide seat-board.
- 1—Remedy wet condition of floor.
- 1—Limewash workroom.
- 1—Provide midden-stead.

It is very desirable that all marine stores should be subject to Section 112 of the Public Health Act, *i.e.*, that before a person can open a marine store he must obtain the written consent of the Council, upon the recommendation of the Medical Officer of Health, such as applies to offensive trades.

OFFENSIVE TRADES.

There are 18 establishments in the Borough in which offensive trades are carried on. They are as follows:—

Tripe dressers	8
Fat melters	5
Gut scrapers	2
Bone boiler	1
Knackers	2
	—
	18

Notices were sent to two tripe-boiling establishments for the broken condition of the floors to be remedied, and to a knacker's yard for the floor to be repaired and the walls to be tarred 6ft. high and limewashed above. These notices were complied with at once.

TABLE XLIII.

	1910.—NUISANCES REMEDIED.														No. of Defects Found, 283; Remedied, 251
	Stoves Connected to Outer Air.	No. of Rooms Ventilated	Internal Walls and Ceilings of Rooms Limewashed	Internal Floors, Windows and Walls of Rooms Cleansed	Inside Floors and Yards Badly Flagged or Paved, Repaired	Defective Drains (re-laid)	Choked Drains (opened and cleansed)	Defective Easing Troughs and Downspouts, Repaired	Defective Sink Waste Pipes (short)	Defective Trap Gullies and Dish Stones Replaced	Accumulations of Refuse and other Debris Removed	Ash Receptacles and Excreta Pails Emptied	Ash Receptacles Provided	Defective Soil Pipes and Urinals Repaired	
Factories	5	1	1	1	1	1	1	1	1	1	2	3	6	14	71
Workplaces														1	9
Out Workers and Contractors							1	1						1	2
Tailors	5	7	5	1	1	1			1				3	1	37
Dressmakers	1	1											1	2	6
Milliners	1	1	1											2	4
Cloggers		5	5			1	1							1	11
Bootmakers	1	6	2											2	12
Curriers and Saddlers.		1					1							1	4
Cabinet Makers and Carvers												1		2	4
Joiners and Masons												2		1	4
Bakers, Confectioners and Sugar Boilers	2	13	5				1					1		1	38
Basket Makers		1													2
Black and White Smiths														1	2
Blind and Chair Makers															...
Brushmakers	1	1													3
Chemists and Photographers															...
Coopers and Coach-builders		2													2
Cotton Waste Sorters and Upholsterers													1		1
Scale Makers and Cycle Makers														1	1
Hosiers, Underclothing and Shirtmakers	1														2
Polishers and Picture Framers															...
Painters and Plumbers														1	1
Printers and Paper Bag Makers		1													1
Wireworkers and Tinners.		1					1							1	4
Wheelwrights														2	5
Offensive Trades and Marine Stores		3	1				1							2	12
Food Preparers		2						1						1	5
Miscellaneous	1	1					1							1	8
TOTALS	11	14	45	11	2	9	6	3	9	18	25	31	16	25	251

No. of Rooms Connected to Outer Air.
 No. of Rooms Ventilated
 Internal Walls and Ceilings of Rooms Limewashed
 Internal Floors, Windows and Walls of Rooms Cleansed
 Inside Floors and Yards Badly Flagged or Paved, Repaired
 Defective Drains (re-laid)
 Choked Drains (opened and cleansed)
 Defective Easing Troughs and Downspouts, Repaired
 Defective Sink Waste Pipes (short)
 Defective Trap Gullies and Dish Stones Replaced
 Accumulations of Refuse and other Debris Removed
 Ash Receptacles and Excreta Pails Emptied
 Ash Receptacles Provided
 Defective Soil Pipes and Urinals Repaired
 General Repairs not Detailed
 Defective W.C.'s Repaired, Re-placed, or Reconstructed.
 Water Closets Lighted and Ventilated
 Defective Connections and Fittings W.C. Flush Pipe to Pan, Repaired
 Closets Cleansed, Pans Cleansed, Walls and Tops Limewashed
 Additional W.C.'s Provided
 Separate Sanitary Accommodation Provided for the Sexes
 Overcrowding Abated
 Illegal Occupation of Underground Bakehouses Rectified
 Workshops Freed from Animals

TABLE XLII.—SUMMARY OF VISITS DURING 1910.

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Factories.....	8	31	32	33	34	20	22	13	20	14	43	20	290
Workshops.....	77	117	141	106	95	187	132	143	165	96	164	131	1554
Workplaces	5	56	41	21	22	41	19	26	36	43	42	47	399
Outworkers .....	...	37	33	...	...	17	...	16	17	...	...	38	158
Offensive Trades .....	...	15	11	20	12	17	20	6	17	4	17	15	154
Complaints—Nuisances Investigated.....	7	5	4	11	7	4	6	4	11	4	3	8	74
Food-preparing and Storing Places.....	1	30	22	29	21	25	24	8	18	8	40	22	248
Work in Progress.....	8	17	26	24	37	19	13	19	22	32	24	21	262
Drains Tested	6	6	...	3	5	...	2	1	21	42	8	3	97
Total	112	314	310	247	233	330	238	236	327	243	341	305	3236

Table XLIV.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Particulars of Registers and Nuisances Found.	Factories.	Workplaces.	Outw'ks & C'tracs.	Tailors.	Dressmakers.	Milliners.	Cloggers.	Bootmakers.	Carriers & Saddlers.	Cabinet Makers and Carvers.	Joiners & Masons.	Bakers, Confectioners, and Sugar Rollers.	Basketmakers.	Black & White Smiths.	Blind and Chairmakers.	Brushmakers.	Chemists and Photographers.	Coopers and Coachbuilders.	Cotton Waste Sorters and Upholsters.	Scale Makers and Cycle Makers.	Hostlers, Under-clothers, Shitm'kers.	Polishers and Picture Framers.	Painters & Plumbers.	Printers and Paper Bag Makers.	Wirew'ks & Tinner's.	Wheelwrights.	Offensive Trades and Marine Stores.	Food Preparers.	Miscellaneous.	Total.		
No. of Workshops on Register			108	82	90	49	69	75	14	22	30	157	7	19	5	12	7	1	9	6	6	12	38	6	18	9	19	5	28	929		
No. of Rooms			113	117	107	49	72	82	18	30	33	177	7	23	5	20	14	8	10	6	6	15	44	6	24	11	31	11	41	1101		
No. of Underground Rooms			1	1	...	...	9	12	...	...	1	5	1	...	1	...	...	2	...	...	...	...	...	...	1	...	...	...	1	2	45
Avg. No. of Males employed			104	329	...	...	146	162	37	69	80	112	25	84	10	43	10	19	15	11	...	32	82	2	64	35	58	8	59	1602	
Avg. No. of Females employed			104	123	373	140	...	3	...	...	...	352	9	...	1	1	17	...	4	...	105	...	19	...	...	...	14	5	34	1204	
No. employing both sexes			22	49	...	...	2	...	...	...	...	20	...	...	1	1	4	...	1	...	3	...	2	...	...	...	6	5	116	...	
No. of rooms badly lighted			...	48	65	20	18	26	3	21	15	70	3	13	3	13	5	5	7	...	...	14	9	20	3	14	5	24	5	25	454
No. of stoves without outlets			...	5	1	1	...	1	...	1	...	1	...	...	...	1	...	...	...	...	...	2	...	...	...	...	...	...	...	...	11
No. of rooms badly ventilated			...	8	2	...	6	5	...	...	...	3	...	...	...	1	...	2	...	...	...	2	...	...	...	...	...	...	...	...	18
No. requiring lime-washing or cleansing			...	...	...	1	...	...	1	1	...	15	1	...	...	1	1	2	...	...	...	...	1	...	...	...	...	3	1	...	45
No. of dirty floors or windows			...	+	...	...	...	...	...	...	...	4	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	8
No. of yards and floor surfaces in bad repair			...	...	...	...	...	1	...	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	1	...	13
No. of drains defective	1		...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
No. of Drains blocked	1	1	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2
No. of insufficient downspouts and defective drainage		
No. of defective slop pipes	1	
No. of defective gullies & dish stones.	1	
No. of gullies & drains inside places.	2	
No. of accumulations of refuse			1	...	1	1	3

Table XLIV.—continued.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
No. ash receptacles and excreta pails to be emptied .....	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
No. without ash receptacles .....	...	3	...	1	1	...	...	...	...	...	...	2	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	8
No. of low chimneys .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
No. of defective soil pipes	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
No. of general repairs	2	...	...	1	...	...	...	1	...	...	1	2	...	...	...	...	...	...	...	...	...	2	1	...	...	2	2	1	1	16
No. defective urinals .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
No. of closets to be replaced and in want of repair	53	1	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	58
No. of closets badly lighted or ventilated	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	2
No. of defective flushing apparatus	5	...	1	2	1	...	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	3	19
No. of closets cleansed & limewashed	4	...	2	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	1	...	...	...	2	1	...	...	...	1	13
No. insufficient closet accommodation	18	1	...	1	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	22
No. of san. accom. for sexes not separated	2	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
No. of rooms overcrowded .....	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
No. of Closets not completed	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6
No. of floors insufficiently drained .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Illegal occupation of underground bakehouse .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Animals inside workshops .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Failure to affix Abstract .....	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
No. of Water Closets	88	102	78	...	...	...	44	58	9	18	22	123	8	13	4	11	8	5	8	6	19	8	28	6	16	...	...	...	...	9
No. of Pail Closets .....	...	...	25	13	2	12	23	17	4	4	7	40	...	6	1	1	...	2	...	...	...	7	3	11	...	2	4	4	2	3
No. of Privies .....	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
No. of Notifications received from H.M. Inspector	13	...	...	15	5	...	1	3	...	...	2	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	...	1	49
Notifications sent to H.M. Inspector	12	...	...	8	2	...	1	2	6	1	...	5	...	...	...	...	...	...	...	...	...	2	...	...	1	1	2	...	1	45
No. of notices issued	10	4	2	20	5	2	4	6	2	4	3	25	1	2	...	...	1	2	1	1	1	1	...	1	3	2	8	2	5	119
Total	129	14	569	943	753	312	397	462	90	174	201	1029	65	162	31	106	67	52	56	31	211	85	232	46	148	75	197	47	245	6929

SUMMARY OF WORK REQUIRED AT FACTORIES.

TABLE XLV.

Notices outstanding and remedied during 1910.

Inspection Book Folio.	Factory situated at	Additional Conveniences required	Result		Existing insanitary closets	Converted to modern water-closets	Defective urinals	Urinals Replaced or repaired	No. sanitary conveniences to be disconnected from workroom	
			No. W.C.'s provided	No. not provided					Done	Not done
*9	Simmons Street ..	...	...	...	...	...	...	...	...	...
16	Back Cort Street...	1	...	1	1 pail	...	...	...	...	...
17	„ „ ...	1	...	1	1 pail	...	...	...	...	...
19	Harwood Street ...	2	...	2	...	...	...	...	...	...
21	Guide	7	4	...	5 troughs	11 peds.	1	1	11	...
†21	Gorse Street.....	...	...	...	...	...	...	...	...	...
21	Goit Street	1	..	1	1 pail	...	...	...	...	...
22	Cort Street .....	...	...	...	2 peds.	...	...	...	...	...
23	Hart Street	5	5	...	4 troughs 2 privies	7 peds	3	4	7	...
26	Albion Street .....	...	...	...	3 s'oppers	...	...	...	...	3
27	Whalley Banks ...	1	1	...	none	1 ped.	...	...	...	...
27	Queen Victoria St.	...	...	...	22 troughs	...	...	...	...	...
28	Greaves Street ...	...	...	...	1 wash out	...	...	...	1	...
‡28	„ „ .....	...	...	...	...	...	...	...	...	...
14 Factories..		18	10	5	42	19	4	5	19	3

* Stable within factory. † Sanitary fittings in W.C. defective.

‡ Insufficient ventilation.

SUMMARY OF WORK REQUIRED AT FACTORIES.

TABLE XLVI.—Notices Issued during 1910.

Inspection Book Folio	Factory situated at	Additional Conveniences required	Result		Existing insanitary closets	Converted to modern water-closets	Defective urinals	Urinals replaced or repaired	No. sanitary conveniences to be disconnected from workroom	
			No. W.C's provided	No. not provided					Done	Not done
29	Grimshaw Park...	1	...	1	2 privies	...	...	..	...	1
29	Waterfall .....	...	...	...	...	..	...	...	...
29	Cardwell Place...	...	...	...	1 ped.	1 ped.	...	...	...	...
29	Exchange Street	...	...	...	1 ped.	...	...	...	...	...
*30	Randal Street ...	..	...	...	...	...	...	...	...	...
30	Cicely Street	7	7	...	7 privies.	7 peds.	..	1	1	...
30	Canterbury Street	...	...	...	1 ped.	...	...	...	...	...
30	Alma Street	1	1	...	...	...	...	...	1	...
8 Factories		9	8	1	12	8	...	1	2	10

* Sanitary accommodation not separate for the sexes.

TABLE XLVII.

Copy of Table sent to the Home Office at the request of the Secretary of State.

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH FOR
1910 for the County Borough of Blackburn.

Factories, Workshops, Workplaces, and Homework.

1.—Inspection.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions
Factories (including Factory Laundries)	290	10	...
Workshops (including Workshop Laundries)	1554	105	...
Workplaces (other than Outworkers' Premises included in Part 3 of this Table)	399	4	...
Total	2243	119	...

2.—Defects Found.

Particulars.	No. of defects.			No. of prosec't'ns
	Found	Remedied	R'eferred to H.M. Inspector	
<i>Nuisances under the Public Health Acts—</i>				
Want of cleanliness	44	37	...	...
Want of ventilation	29	25	...	...
Overcrowding... ..	1	1	...	...
Want of drainage of floors	0	0	...	...
Other nuisances	61	76	...	...
Sanitary accommodation { insufficient	22	23	...	...
{ unsuitable or defective ..	94	67	...	...
{ not separate for sexes ...	5	5	...	...
<i>Offences under the Factory and Workshop Act—</i>				
Illegal occupation of underground bakehouse... (S. 101)	1	2	...	...
Breach of special sanitary requirements for bakehouses (SS. 97 to 100)	15	13	...	..
Other offences: Sec. 133 (Excluding offences relating to outwork which are included in Part 3 of this Table)...	11	2	9	...
Total	283	251	9	...

TABLE XLVII.—*continued.*
3.—HOME WORK.

OUTWORKERS' LISTS, SECTION 107.												
NATURE OF WORK.	Lists received from Employers.					Addresses of Outworkers.		Notices served on Occupiers as to keeping or sending lists.	Prosecutions.		Inspections of Outworkers' premises.	
	Twice in the year.		Once in the year.		Received from other Councils.	Forw'ded to other Councils.	Failing to keep or permit inspection of lists.		Failing to send lists.			
	Lists.	Con-tractors	Work-men	Lists.				Con-tractors		Work-men.		
	(1)	2	3	4	5	6	7	8	9	10	11	12	13
Wearing Apparel—												
(1) making, &c.	48	101	80	25	21	26	10	18	...	...	...	156
(2) cleaning and washing												
Furniture and Upholstery ...	...	1	...	...	1	...	..	...	...	...	...	2
Total	48	102	80	25	22	26	10	18	...	...	...	158

TABLE XLVII.—*continued.*

4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year.....		Number.
Important classes of workshops, such as work shop bake-houses, may be enumerated here.	Various Trades	664
	Workshop Bakehouses.....	102
	Domestic Retail Bake-houses	55
	Total number of Workshops on Register	821

5.—OTHER MATTERS.

Class.	Number.
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Act (s. 133)	9
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory & Workshop Act (s. 5)) Notified by H.M. Inspector	48
Reports (of action taken) sent to H.M. Inspector	45
Other	1
Underground Bakehouses (s. 101) :—	
Certificates granted during the year	0
In use at the end of the year	4

COTTON OPERATIVES' MORTALITY STATISTICS.

The following Tables show the death-rates amongst those persons engaged in the Cotton Industry of Blackburn for several years, 1889 to 1909, and also for the year 1910. The rates for the years 1893 to 1896 have been calculated from the 1891 census figures. The rates for the years 1897 to 1901 have been calculated from the 1901 census figures, including those operatives who were formerly in the cotton trade but who had retired.

The rates for the years 1902 to 1910 have been calculated from the 1901 census figures also, but with the addition of those cotton operatives who were included with the extension of the Borough in 1901. All these rates will be revised when the 1911 census figures are available.

The compilation of these statistics year by year is proving of great value in enabling one to draw certain conclusions based upon the observations of a considerable number of years. I devoted considerable space to this section in my Annual Report for 1906.

The age-periods in these Tables represent the five decades from 15 to 65 years, and the period "65 years and upwards."

The most useful figures are those given in the various decades from 15 to 65 years, since in the age-period "65 years and upwards" the number of deaths is large, owing to the inclusion of retired cotton operatives. This affects males more than females.

All the figures have been revised and corrected since the year 1889.

In the following figures the cotton operatives have been divided into these four groups:—

- I. Weavers.
- II. Spinners.
- III. Winders, Warpers, etc.
- IV. Cardroom-hands.

Also the deaths and death-rates have been calculated from three points of view, namely :—

- (a) Death-rates for 1910 compared with death-rates for the years 1889 to 1910.
- (b) Phthisis death-rates for 1910 compared with Phthisis death-rates for the years 1889 to 1910.
- (c) Death-rates from Other Respiratory Diseases for 1910 compared with the death-rates from Other Respiratory Diseases for the years 1889 to 1910.

These figures indicate an improvement in the death-rates amongst Cotton Operatives.

In my next Annual Report I shall be able to deal with this subject more fully and to speak more definitely concerning this improvement when dealing with the period between two census years, namely, 1901 to 1911.

TABLE XLVIII.—DEATHS OF MALE AND FEMALE WEAVERS FOR THE YEARS 1901—1910.

Age Periods.	1901		1902		1903		1904		1905		1906		1907		1908		1909		1910	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
15 to 25	12	23	8	21	7	20	8	16	8	14	10	26	7	16	11	17	5	20	16	14
25 to 35	7	25	12	10	9	18	2	12	9	19	6	15	9	11	2	10	6	30	3	23
35 to 45	12	14	11	15	8	11	6	13	10	17	5	16	13	7	13	10	13	16	6	20
45 to 55	7	6	13	10	14	6	14	11	9	7	11	12	16	11	16	9	16	10	11	19
55 to 65	17	5	16	7	14	4	25	4	14	7	10	10	13	5	15	1	17	7	13	17
65 and upwards	27	6	22	8	21	6	19	5	30	7	34	4	26	8	26	9	31	4	32	17

TABLE XLIX.—DEATH RATES OF MALE AND FEMALE WEAVERS FOR THE YEARS 1901-1910.

Age Periods.	1901		1902		1903		1904		1905		1906		1907		1908		1909		1910	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
15 to 25...	4.1	3.1	2.7	2.8	2.4	2.7	2.7	2.1	2.7	1.9	3.4	3.5	2.4	2.1	3.7	2.3	1.7	2.7	5.5	1.9
25 to 35...	3.8	5.7	6.5	2.2	4.9	4.1	1.0	2.7	4.9	4.3	3.2	3.4	4.9	2.5	1.0	2.2	3.2	6.8	1.6	5.2
35 to 45...	9.3	6.6	8.6	7.0	6.3	5.1	4.7	6.1	7.3	7.9	3.9	7.5	10.2	3.2	10.2	4.6	10.2	7.5	4.7	9.3
45 to 55...	10.0	8.4	18.3	14.2	19.7	8.4	19.7	15.4	12.7	9.8	15.5	16.9	22.6	15.5	22.6	12.6	22.6	14.0	15.5	26.7
55 to 65...	39.2	23.0	36.8	31.9	32.2	18.2	57.6	18.2	32.2	31.9	23.0	45.6	29.9	22.8	34.5	4.5	39.1	31.9	29.9	77.6
65 & upds.	146.7	60.0	119.5	80.0	114.1	60.0	103.2	50.0	163.1	70.0	184.7	40.0	141.3	80.0	141.3	90.0	168.4	40.0	173.9	170.0

The following rates have been worked from the 1901 Census figures, including the retired operatives and those operatives who came in with the extension of the Borough in 1901.

TABLE L.—DEATHS DURING 1910.

Age Periods.	Weavers.	Spinners.	Warpers, Winders, &c.	Card Room Hands	Borough.
15 to 25	30	3	5	2	487
25 to 35	26	1	9	4	107
35 to 45	26	2	11	8	142
45 to 55	30	10	9	5	215
55 to 65	30	1	12	8	256
65 and upwards ...	49	19	10	7	460
Total	191	36	56	34	1267

TABLE LI.—DEATH RATES for 1910.

Age Periods.	Weavers.	Spinners.	Warpers, Winders, &c.	Card Room Hands	Borough.
15 to 25	2.9	4.5	2.0	2.0	3.2
25 to 35	4.1	2.4	5.3	9.2	4.9
35 to 45	7.6	3.8	10.2	17.9	8.2
45 to 55	21.1	29.4	15.1	23.9	18.0
55 to 65	45.9	6.8	56.8	105.2	35.5
65 and upwards ...	172.5	226.1	107.5	166.6	108.7
All Ages over 15 Years	8.6	16.6	9.1	18.3	14.2

TABLE LII.—PHTHISIS, 1910.
DEATHS.

Age Periods.	Weavers.	Spinners.	Winders, Warper, &c.	Card Room Hands	Borough.
15 to 25.....	9	1	2	...	24
25 to 35.....	5	...	1	1	25
35 to 45.....	4	...	2	3	19
45 to 55.....	4	1	2	...	20
55 to 65.....	1	...	1	...	14
65 and upwards.....	...	...	...	...	...
Total.....	23	2	8	4	102

TABLE LIII.—DEATH RATES FOR 1910.

Age Periods.	Weavers.	Spinners.	Winders, Warper, &c.	Card Room Hands	Borough.
15 to 25.....	0·8	1·5	0·8	0·0	0·8
25 to 35.. ..	0·8	0·0	0·5	2·3	1·1
35 to 45.....	1·1	0·0	1·8	6·7	1·0
45 to 55.....	2·8	2·9	3·3	0·0	1·6
55 to 65.....	1·5	0·0	4·7	0·0	1·9
65 and upwards.....	0·0	0·0	0·0	0·0	0·0
All Ages over 15 years...	1·0	0·9	1·3	2·1	1·1

**TABLE LIV.—RESPIRATORY DISEASES OTHER
THAN PHTHISIS, 1910.**

DEATHS.

Age Periods.	Weavers.	Spinners.	Winders, Warper, etc.	Card Room Hands.	Borough.
15 to 25	2	...	1	...	9
25 to 35	5	.	1	1	14
35 to 45	4	...	1	2	24
45 to 55	2	..	...	1	24
55 to 65	9	...	5	3	65
65 and upwards.....	10	10	...	2	99
Total	32	10	8	9	235

TABLE LV.—DEATH RATES FOR 1910.

Age Periods.	Weavers.	Spinners.	Winders, Warper, etc.	Card Room Hands.	Borough.
15 to 25	0·1	0·0	0·4	0·0	0·3
25 to 35	0·8	0·0	0·5	2·3	0·6
35 to 45	1·1	0·0	0·9	4·4	1·3
45 to 55	1·4	0·0	0·0	4·7	2·0
55 to 65	13·7	0·0	23·6	39·4	9·0
65 and upwards	35·2	119·0	0·0	47·6	23·4
All ages over 15 years ...	1·4	4·6	1·3	4·8	2·6

TABLE LVI.—DEATHS from all causes from 1889 to 1910.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, &c.	Card Room Hands	Borough.
15 to 25.....	783	81	208	48	2360
25 to 35	585	92	216	56	2866
35 to 45.....	589	115	190	80	4113
45 to 55	459	164	177	82	5096
55 to 65.....	507	141	132	53	6463
65 & upwards.....	665	256	170	49	9427
Total	3588	849	1093	368	30325

TABLE LVII.—AVERAGE DEATH RATES 1889 TO 1910

Age Periods.	Weavers.	Spinners.	Winders, Warpers, &c.	Card Room Hands	Borough.
15 to 25.....	3.5	5.6	3.8	3.3	4.0
25 to 35	4.2	10.0	5.8	5.8	6.0
35 to 45.....	7.8	10.0	8.0	8.1	10.8
45 to 55.....	14.7	21.9	13.5	17.8	19.4
55 to 65	35.2	43.9	28.4	31.7	40.8
65 & upwards.....	106.4	138.5	83.0	53.0	101.3
All Ages over 15 Years	7.3	17.8	8.1	9.0	15.5

TABLE LVIII.—PHTHISIS, 1889 to 1910.
DEATHS.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, &c.	Card Room Hands	Borough.
15 to 25.....	233	21	65	13	628
25 to 35.....	175	27	77	22	671
35 to 45.....	131	28	30	21	754
45 to 55.....	53	19	14	11	456
55 to 65.....	32	4	5	1	227
65 and upwards	3	2	3	...	43
Total	627	101	194	68	2779

TABLE LIX.—AVERAGE DEATH RATES,
1889 TO 1910.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, &c.	Card Room Hands	Borough.
15 to 25.....	1'0	1'4	1'2	0'9	1'0
25 to 35.....	1'2	2'9	2'0	2'3	1'4
35 to 45.....	1'3	2'4	1'2	2'1	1'9
45 to 55... ..	1'7	2'5	1'0	2'4	1'7
55 to 65	2'2	1'2	1'0	0'6	1'4
65 and upwards.....	0'4	1'0	1'4	0'0	0'4
All Ages over 15 years	1'2	2'1	1'4	1'6	1'4

TABLE LX.—RESPIRATORY DISEASES OTHER
THAN PHTHISIS, 1889 to 1910.
DEATHS.

Age Periods.	Weavers	Spinners	Winders, Warpers, etc.	Card Room Hands.	Borough
15 to 25.....	78	13	29	5	355
25 to 35.....	77	21	20	6	473
35 to 45.....	102	21	41	15	861
45 to 55.....	132	42	41	31	1314
55 to 65.....	174	53	39	14	1958
65 and upwards.....	160	72	41	18	2500
Total.. ..	723	222	211	89	7461

TABLE LXI.—AVERAGE DEATH RATES
1889 to 1910.

Age Periods.	Weavers	Spinners	Winders, Warpers, etc.	Card Room Hands	Borough
15 to 25.....	0·3	0·9	0·5	0·3	0·6
25 to 35.....	0·5	2·3	0·5	0·6	1·0
35 to 45.....	1·3	1·8	1·7	1·5	2·2
45 to 55.....	4·2	5·6	3·1	6·7	5·0
55 to 65.....	12·1	16·5	8·4	8·3	12·3
65 and upwards.....	25·5	38·9	20·0	19·5	26·8
All ages over 15 years ...	1·4	4·6	1·5	2·1	3·8

FEVER HOSPITAL.

The Fever Hospital is situated in Longshaw Lane, on an open site of $10\frac{1}{2}$ acres, and at a height of 560 feet above sea-level.

Full particulars appeared in my Annual Report for 1903, respecting cost, number of beds, buildings, etc.

The following Table gives an analysis of the number of cases admitted to the Fever Hospital during 1910, the number of deaths, and other details.

It will be observed that the average number of beds occupied was 76.7, which is 24 less than during 1909.

The average number of days occupied in the Hospital by the patients was 46.5, which is 2.9 greater than for 1909.

There was a less case mortality from Scarlet Fever and from Enteric Fever during 1910, as compared with 1909.

The Hospital still maintains its reputation as a life-saving institution, and is much appreciated by the public. Many cases are treated and nursed there who could not receive the same attention at their own homes.

The usual repairs have been carried out where necessary, and a considerable amount of painting has been carried out at the Institution. Also the Convalescent Scarlet Fever Block has been re-drained and the ground near the building has been flagged. Two new bathrooms have been erected at the Typhoid Fever Block. Also the small room formerly occupied with machinery in connection with artificial ventilation has been converted into a small ward. These improvements have cost a considerable sum of money.

I have again followed the plan initiated in my Annual Report for 1903, of giving a fuller description than had been included previously of the cases treated in the Fever Hospital, dealing with each disease separately. Dr. Buchanan has rendered me valuable assistance in analysing the Register for this purpose.

TABLE LXII.—FEVER HOSPITAL.

Notified Disease.	Patients remaining in hospital on January 1st, 1910.			Patients admitted and discharged in 1910.			Patients remaining in hospital on January 1st, 1911.			Analysis of all cases admitted in 1910, whether discharged or not during the year.					Average No. of Beds occupied during 1910.	Cases removed expressed as a percentage of total notified.
	Total	Recov-ered.	Died.	Total	Recov-ered.	Died.	Total	Recov-ered.	Died.	Total	Recov-ered.	Died.	Case M'tality	Average days in Hospital		
Scarlet Fever ...	91	90	1	448	431	17	90	90	0	538	521	17	3.1	47.09	69.4	66.6
Enteric Fever...	8	7	1	17	12	5	5	5	0	22	17	5	22.7	34.7	2.1	47.8
Diphtheria.....	1	1	0	33	24	9	9	9	0	42	33	9	21.4	45.7	5.2	43.7
Totals	100	98	2	498	467	31	104	104	0	602	571	31	5.1	46.5	76.7	63.3

This Table includes 8 cases admitted from outside the Borough during 1910, and the percentages are worked out on the total number of admissions into Hospital.

SCARLET FEVER.

The total number of cases admitted during the year as Scarlet Fever was 538. Of these, 11 were negative, leaving 527 true cases admitted as such.

In addition, three cases sent in as Diphtheria were found, on admission, to be suffering from Scarlet Fever, and not Diphtheria.

The total number of cases, therefore, during the year was 530. Eight cases were admitted from outside the Borough.

The following complications and sequelæ occurred among the Scarlet Fever patients :—

Complications.	No. of Cases.
Rhinorrhœa	65
Otorrhœa	61
Cervical Adenitis—	
Non-Suppurative	62
Suppurative	15
Albuminuria	37
Nephritis	24
Sore Nose and Mouth	24
Septic Fingers	19
Endocarditis	12
Bronchitis	11
Rheumatism	10
Secondary Sore Throat	7
Abscesses and Cellulitis	6
Broncho-pneumonia	5
Eczema	4
Mastoid Disease	3
Pneumonia	3
Tonsillitis	3
Conjunctivitis	3
Tinea	2
Anæmia	2

Phthisis	2
Pleurisy	1
Jaundice	1
Laryngitis	1
Cretinism	1
Rickets	1
Psoriasis	1
Furunculosis	1
Parotitis	1
Spinal Caries and Psoas Abscess	1
Empyema	1
Dacryocystitis	1

Relapses occurred in five cases, but these all recovered.

Of the eleven negative cases, five were suffering from Tonsillitis. One had Diphtheria and two had drug rashes.

WHOOPIING-COUGH AMONGST SCARLET FEVER PATIENTS.

Seven patients were admitted during the year who were found subsequently to have Whooping-cough, contracted before admission. These cases were isolated as soon as the nature of the cough was suspected, and none of the other patients became affected.

There were no cases of Chicken-pox during the year.

OUTBREAK OF MEASLES AMONGST SCARLET FEVER PATIENTS.

There were 17 cases of Measles during the year, which were due in the first instance to imported infection.

(1) No. 183. Admitted, 13th May, 1910. Developed Measles, 26th May, 1910.

(2) No. 198. Admitted, 21st May, 1910. Developed Measles, 1st August, 1910.

(3) No. 199. Admitted, 21st May, 1910. Developed Measles 21st July, 1910.

- | | | |
|-----------------------------|----------------------------|-----------|
| (4) No. 220. | Admitted, 8th June, 1910. | Developed |
| 3rd August, 1910. | | |
| (5) No. 235. | Admitted, 14th June, 1910. | Developed |
| Measles, 19th July, 1910. | | |
| (6) No. 245. | Admitted, 20th June, 1910. | Developed |
| Measles, 5th August, 1910. | | |
| (7) No. 256. | Admitted, 25th June, 1910. | Developed |
| Measles. 4th August, 1910. | | |
| (8) No. 260. | Admitted, 27th June, 1910. | Developed |
| Measles. 3rd August, 1910. | | |
| (9) No. 272. | Admitted, 1st July, 1910. | Developed |
| Measles. 7th August, 1910. | | |
| (10) No. 274. | Admitted, 2nd July, 1910. | Developed |
| Measles. 10th August, 1910. | | |
| (11) No. 275. | Admitted, 2nd July, 1910. | Developed |
| Measles. 9th August, 1910. | | |
| (12) No. 276. | Admitted, 5th July, 1910. | Developed |
| Measles. 7th August, 1910. | | |
| (13) No. 290. | Admitted, 11th July, 1910. | Developed |
| Measles. 20th August, 1910. | | |
| (14) No. 295. | Admitted, 13th July, 1910. | Developed |
| Measles. 20th August, 1910. | | |
| (15) No. 299. | Admitted, 16th July, 1910. | Developed |
| Measles. 23rd August, 1910. | | |
| (16) No. 303. | Admitted, 18th July, 1910. | Developed |
| Measles, 24th August, 1910. | | |
| (17) No. 308. | Admitted, 20th July, 1910. | Developed |
| Measles. 12th August, 1910. | | |

There were no deaths among these 17 cases.

POST SCARLATINAL DIPHThERIA.

Four cases of Scarlet Fever were infected with Diphtheria.

In no case was there a fatal result.

No. 437, admitted October 15th, developed Diphtheria November 6th, and was discharged November 29th.

No. 440, admitted October 17th, developed Diphtheria November 11th, and was discharged December 13th.

No. 517, admitted November 24th, developed Diphtheria December 21st, and was discharged January 31st, 1911.

No. 541. Admitted December 5th. Developed Diphtheria January 14th, and was discharged from Hospital February 10th, 1911.

CASES OF SCARLET FEVER AND DIPHThERIA OCCURRING CONCURRENTLY, BUT CERTIFIED AS DIPHThERIA OR SCARLET FEVER.

Two such cases occurred during 1910.

No. 459, admitted October 24th; diagnosis of Diphtheria confirmed by bacteriological examination. Had Scarlet Fever Rash day after admission, and subsequently desquamated.

No. 503, admitted November 18th; certified as Scarlet Fever. As this case came from the same house as No. 459, a throat swab was examined and Diphtheria bacilli were found.

Both these patients recovered.

RETURN CASES OF SCARLET FEVER.

“Return cases” is a term employed to indicate the re-appearance of Scarlet Fever infection in a household within one month after the return home of a Scarlet Fever patient from the Hospital.

Thirty-four Return Cases of Scarlet Fever occurred during the year 1910, compared with 52 such cases during 1909.

The periods between the return home of the first case and the occurrence of the second case were—

Period.	Number of Cases.
1 day	1
2 days	2
4 „	3
5 „	3
6 „	1
7 „	1
8 „	4
9 „	2
11 „	5
14 „	2
15 „	1
16 „	1
17 „	2
18 „	5
25 „	1

TABLE LXIII.—RETURN CASES OF SCARLET FEVER (Hospital Treated).

INFECTING CASE.						INFECTED CASE.						
Case No.	No. in Register	Description.	Date of Ad-mission.	Date of Dis-charge.	Days in Hos-pital	Complications.	Case No.	No. in Register	Description.	Date of Onset.	Date of Ad-mission.	Days Interval
1	801	male, 1½ years	Dec. 9	Jan. 11	34	None	{ 1 2 3	24 30 41	female, 7 years female, 13 years female, 5 years	Jan. 17 Jan. 19 Jan. 26	Jan. 20 Jan. 21 Jan. 29	6 8 15
2	23	female, 8 years	Jan. 20	Mar. 8	44	None	4	85	male, 15 years	Mar. 9	Mar. 12	1
3	62	male, 2½ years	Feb. 22	Mar. 29	36	None	5	151	female, 6 years	Apl. 15	Apl. 18	17
4	89	male, 5 years	Mar. 15	May 6	53	None	6	176	female, 7 years	May 8	May 10	2
5	106	male, 5 years	Mar. 21	May 10	50	None	{ 7 8	178 186	female, 29 years male, 3 years	May 12 May 15	May 13 May 16	2 5
6	58	male, 3 years	Feb. 14	Apl. 22	58	Rhinorrhœa	9	163	female, 28 years	Apl. 26	Apl. 27	4
7	104	female, 3 years	Mar. 21	June 3	75	Nephritis	10	236	male, 1½ years	June 14	June 14	11
8	158	male, 6 years	Apl. 26	July 5	72	Otorrhœa	11	298	female, 1½ years	July 12	July 15	7
9	193	female, 7 years	May 19	July 29	72	Otorrhœa & Rhinorrhœa	{ 12 13	347 348	male, 3 years male, 10 years	Aug. 7 Aug. 9	Aug. 12 Aug. 12	9 11

TABLE LXIII.—RETURN CASES OF SCARLET FEVER (Hospital Treated).—continued.

INFECTING CASE.						INFECTED CASE.						
Case No.	No. in Register	Description.	Date of Ad- mission.	Date of Dis- charge.	Days in Hos- pital.	Complications.	Case No.	No. in Register	Description.	Date of Onset.	Date of Ad- mission.	Days Interval
10	218	male, 6 years	June 6	July 15	40	Adenitis	14	322	male, 8 years	July 24	July 26	9
11	271	female, 9 years	July 1	Aug. 5	36	None	15	352	female, 11 years	Aug. 13	Aug. 16	8
12	301	male, 8 years	July 16	Aug. 23	39	Adenitis	16	368	male, 8 years	Aug. 28	Aug. 29	5
13	304	female 5 years	July 19	Aug. 23	36	None	17	370	female, 3 years	Aug. 28	Aug. 30	5
14	312	male, 6 years	July 23	Aug. 26	35	None	18	375	male, 3½ years	Aug. 30	Sep. 1	4
15	244	male, 7 years	June 18	Aug. 12	56	Nephritis	{ 19 20	{	female, 6 years male, 4 years	Aug. 28 Aug. 30	... ...	16 18
16	275	male, 9 years	July 2	Aug. 30	60	None	21	...	male, 6 years	Sep. 13	...	14
17	329	female, 5 years	July 30	Sept. 6	39	None	{ 22 23 24	{ 399 408 407	male, 7 years male, 4 years male, 3 years	Sep. 17 Sep. 23 Sep. 24	Sep. 19 Sep. 24 Sep. 24	11 17 18
18	340	female, 7 years	Aug. 9	Sept. 16	39	None	25	404	male, 2 years	Sep. 20	Sep. 21	21

TABLE LXIII.—RETURN CASES OF SCARLET FEVER (Hospital Treated)—continued.

INFECTING CASE.							INFECTED CASE.					
Case No.	No. in Register	Description.	Date of Ad- mission.	Date of Dis- charge.	Days in Hos- pital.	Complications.	Case No.	No. in Register	Description.	Date of Onset.	Date of Ad- mission.	Days Interval
19	359	male, 5 years	Aug. 22	Sep. 20	30	None	{ 26 27	{ 419 420	male, 11 years male, 7 years	Sep. 28 Sep. 28	Oct. 3 Oct. 3	8 8
20	347	male, 3 years	Aug. 12	Sep. 20	40	None	28	454	male, 9 years	Oct. 15	Oct. 20	25
21	371	male, 9 years	Aug. 30	Oct. 7	39	None	29	463	female, 9 years	Oct. 21	Oct. 26	14
22	484	female, 5 years	Nov. 7	Dec. 9	33	None	{ 30 31 32	{ 583 584 597	male, 8 years female, 4 years female, 5 years	Dec. 20 Dec. 20 Dec. 27	Dec. 21 Dec. 21 Dec. 28	11 11 18
23	456	female, 12 years	Oct. 21	Nov. 25	36	None	33	456	male 18 years	Dec. 13	Dec. 14	18
24	445	male, 5 years	Oct. 18	Dec. 2	46	Albuminuria	34	...	female, 8 years	Dec. 20	...	18

NOTES ON THE ABOVE RETURN CASES OF SCARLET FEVER.

1. Was well on discharge. Rhinorrhœa appeared a week later.
2. Was well on discharge, and kept so ; came very little into contact with infected patient.
3. Was well and kept well. Return case probably infected at School.
4. Was well on discharge, and kept well.
5. Well when discharged ; developed a sore nose later.
6. Had slight Rhinorrhœa while in Hospital ; none on discharge, but said to have commenced on arrival at home.
7. Had Nephritis in Hospital, but was well before going home.
8. Had Otorrhœa in Hospital ; dried up one week before discharge, and did not reappear.
9. Had Otorrhœa and Rhinorrhœa ; was well on discharge, but Rhinorrhœa began again after a few days.
10. Suffered from Adenitis in Hospital ; was well on discharge.
11. Was well on discharge, and kept well afterwards.
12. Had Adenitis in Hospital ; well on discharge ; was in contact with infected patient for one day only.
13. Subsequent desquamation is said to have occurred.
14. Was well, and kept well after discharge.

15. The infecting patient was taken home by parents, though suffering from Nephritis; Rhinorrhœa said to have started a few days later; kept away from others for eleven days.

16. Well on discharge; developed a sore nostril later.

17. Patient's feet said to have desquamated after discharge.

18. Was well and kept well.

19. Was quite well on discharge, and remained well.

20. Was well and kept well; slept with infected patient.

21. Well on discharge; subsequent desquamation on feet.

22. Was well on discharge, and continued well.

23. Well on discharge; developed Nephritis a few days later.

24. Had Albuminuria in Hospital; was well when discharged, and kept well.

In three cases an attempt was made at isolation of the discharged patient on arrival at home. The greater number were allowed to play with the other children of the household, and four of those discharged from Hospital were permitted to sleep with others who were subsequently infected.

Every care was taken before any patient left the Hospital to prevent the carriage of infection.

Three of the 34 infected patients were nursed at home. The character of the disease was mild in 30 of the cases, moderate in three, and severe in one case.

II.—SECONDARY CASES OCCURRING IN A HOUSE FROM WHICH THE FIRST CASE WAS REMOVED TO HOSPITAL, BUT WHICH OCCURRED BEFORE THE FIRST CASE WAS DISCHARGED FROM HOSPITAL.

There were 43 such cases during 1910. The periods between the onset of the first case and the onset of the second case were as follows:—

Period.	Number of Cases
1 day	2
2 days	5
3 „	3
4 „	5
5 „	1
6 „	4
7 „	5
8 „	1
9 „	2
10 „	2
11 „	1
13 „	1
14 „	2
17 „	1
18 „	1
21 „	1
22 „	1
23 „	1
25 „	1
26 „	1
36 „	1
82 „	1

Table LXIV.—Secondary Cases of Scarlet Fever occurring while the first case was in Hospital.

INFECTING CASE.				INFECTED CASE.				Interval in days.
Case Number.	Description.	Date of Onset	Date of Admission.	Case Number.	Description.	Date of Onset.	Date of Admission.	
1	A.J., female, 20 years	Jan. 18th	Jan. 19th	1	F.A.J., female, 8 years	Jan. 20th	Jan. 20th	2
2	E.B., female, 4 years	Feb. 11th	Feb. 11th	2	M.B., female, 3 years	Feb. 13th	.....	2
3	M.W., female, 6 years	Feb. 22nd	Feb. 23rd	3	A.W., female, 3 years	Mar. 20th	Mar. 21st	26
4	J.F., male, 5½ years	Mar. 14th	Mar. 14th	4	J.F., female, 9 years	Mar. 21st	Mar. 23rd	7
5	A.E., female, 21 years	Feb. 13th	Feb. 14th	5	E.E., male, 15 years	Mar. 10th	.....	25
6	C.K., female, 6 years	Mar. 27th	Mar. 29th	6	L.K., female, 4 years	Mar. 30th	Mar. 31st	3
7	M.A.H., female, 11 years	Mar. 21st	Mar. 22nd	7	F.H., female, 10 years	Mar. 31st	April 2nd	10
8	E.A.R., female, 5 years	April 1st	April 1st	8	A.H., female, 7 years	Mar. 31st	April 2nd	10
9	J.C., male, 5 years	Jan. 20th	Jan. 21st	9	J.A.R., female, 13 years	April 7th	April 9th	6
10	M.E.B., female, 11 years	April 9th	April 11th	10	R.C., female, 11 years	April 12th	April 13th	82
				11	R.B., male, 5 years	April 13th	April 13th	4
				12	E.B., female, 3 years	April 15th	April 18th	6

Table LXIV. —Secondary Cases of Scarlet Fever occurring while the first case was in Hospital (continued)

INFECTING CASE.				INFECTED CASE.				Interval in days.
Case Number.	Description.	Date of Onset.	Date of Admission.	Case Number.	Description.	Date of Onset.	Date of Admission.	
11	M.C., female, 8 years	April 8th	April 11th	13	H.C., male, 11 years	April 14th	April 14th	6
12	V.M.R., female, 9 years	April 9th	April 11th	14	H.R., male, 7 years	May 2nd	May 3rd	23
13	T.L., male, 10 years	May 11th	May 13th	15	E.L., female, 15 years	May 22nd	May 25th	11
14	H.C., male, 3 years	May 11th	May 13th	16	R.C., male, 8 years	May 13th	May 19th	2
15	M.C., female, 7 years	May 30th	June 1st	17	E.C., female, 2 years	June 6th	June 8th	7
16	L.G., male, 6 years	June 3rd	June 6th	18	J.G., male, 9 years	June 10th	June 11th	7
17	B.S., female, 3 years	June 4th	June 4th	19	M.S., male, 6 years	June 25th	...	21
18	A.W., female, 8 years	June 7th	June 8th	20	L.W., female, 14 years	June 24th	June 25th	17
19	E.B., female, 2 years	June 25th	June 30th	21	N.B., male, 3 years	June 27th	July 5th	2
20	M.N., female, 7 years	July 12th	July 12th	22	T.N., male, 3 years	July 15th	July 16th	3
21	K.S., female, 6 years	June 9th	June 10th	23	H.S., male, 8 years	July 15th	July 18th	36
22	M.H., female, 2 years	June 28th	June 28th	24	I.W., female, 4 years	July 16th	July 19th	18

Table LXIV.—Secondary Cases of Scarlet Fever occurring while the first case was in Hospital (continued).

INFECTING CASE.				INFECTED CASE.				Interval in days.
Case Number.	Description	Date of Onset.	Date of Admission.	Case Number.	Description.	Date of Onset.	Date of Admission	
23	R.W., male, 6 years	July 20th	July 21st	25	D.W., female, 4 years	July 24th	July 25th	4
24	A.H., female, 6 years	July 20th	July 25th	26	A.H., male, 5 years	July 24th	July 25th	4
25	B.D., female, 5 years	July 29th	July 30th.	27	G.D., female, 2 years	August 1st	August 2nd	3
26	E.P., female, 8 years	August 9th	August 11th	28	A.P., female, 3 years	August 18th	Sept. 8th	9
27	E.H., female, 4 years	Sept. 15th	Sept. 20th	29	J.H. male, 2 years	Sept. 22nd	Sept. 23rd	7
28	J.B., male, 3 years	Oct. 6th	Oct. 7th	30	J.B., female, 2 years	Oct. 7th	Oct. 8th	1
29	H.G., female, 8 years	Oct. 13th	Oct. 21st	31	E.G., female, 5 years	Oct. 19th	Oct. 19th	6
30	F.C., male, 4 years	Oct. 23rd	Oct. 27th	32	E.A.C., female, 5 years	Oct. 30th	Oct. 31st	7
31	N.B., female, 12 years	Oct. 21st	Oct. 21st	33	L.B., female, 8 years	Nov. 12th	Nov. 12th	22
32	J.B., female, 19 years	Nov. 15th	Nov. 16	34	M.S., female, 32 years	Nov. 16th	.....	1
33	M.O.B., female, 17 years	Nov. 21st	Nov. 24th	35	M.B., female, 9 years	Nov. 23rd	Nov. 24th	2

Table LXIV. —Secondary Cases of Scarlet Fever occurring while the first case was in Hospital (continued).

INFECTING CASE.				INFECTED CASE.				Interval in days.
Case Number	Description.	Date of Onset.	Date of Admission.	Case Number	Description.	Date of Onset.	Date of Admission.	
34	E.W., male, 5 years	Nov. 22nd	Nov. 23rd	36	M.W., female, 3 years	Nov. 27th	Nov. 28th	5
35	T.P., male, 14 years	Nov. 23rd	Nov. 24th	37	A.P., male, 6 years	Dec. 1st	Dec. 2nd	8
36	J.C.B., male, 10 years	Nov. 30th	Nov. 30th	38	J.P., male, 10 years	Dec. 7th	Dec. 8th	14
37	D.P., female, 28 years	Dec. 1st	Dec. 2nd	39	E.P., female, 17 years	Dec. 7th	Dec. 8th	14
38	J.D. male, 7 years	Dec. 16th	Dec. 17th	40	C.S.B., male, 9 years	Dec. 4th	Dec. 5th	4
				41	H.P., male, 29 years	Dec. 10th	Dec. 12th	9
				42	A.D., male, 4 years	Dec. 20th	Dec. 21st	4
				43	L.D., female, 9 years	Dec. 29th	Dec. 31st	13

III.—SECONDARY CASES OF SCARLET FEVER OCCURRING IN A HOUSE IN WHICH THE FIRST CASE WAS NURSED AT HOME.

Twenty-three of these cases occurred during the year. The periods between the onset of the first case and the onset of the second case were as follows:—

Period.	Number of Cases
4 days	2
5 „	3
6 „	1
7 „	2
8 „	3
10 „	1
11 „	1
13 „	1
14 „	1
15 „	1
19 „	1
23 „	1
30 „	1
37 „	1
43 „	1
48 „	1
77 „	1

TABLE LXV.

Monthly Admissions of Scarlet Fever Cases to Fever
Hospital during 1910.

Month.	Total Number of Scarlet Fever Cases Notified.	Scarlet Fever Removals.	Percentages of Removals of S. F.
January.....	52	35	67.3
February	41	21	51.2
March	63	47	74.6
April	57	40	70.1
May	65	46	70.7
June	74	53	71.6
July	81	55	67.9
August	60	41	68.3
September	54	37	68.5
October	59	47	79.6
November.....	102	55	53.9
December.....	87	53	60.9
Totals.....	795	530	66.6

TABLE LXVI.

The following table shows the percentage of Scarlet Fever removals in wards during 1910.

Wards.	Percentages.
St. Stephen's	72·3
Trinity	77·2
St. Michael's	58·9
St. John's.....	72·7
St. Silas's.....	36·1
St. Paul's.....	54·5
St. Peter's	80·0
St. Mary's	90·9
St. Matthew's	89·1
St. Thomas's	60·3
Park	92·3
St. Luke's.....	86·6
St. Mark's	61·6
St. Andrew's	77·7

TYPHOID FEVER.

The total number of cases admitted to the Hospital certified as Typhoid Fever was 22.

Two of these were not Typhoid, leaving 20 cases. There were no cases admitted from outside the Borough.

One of the negative cases was Lobar Pneumonia; the other was Broncho-pneumonia. Both recovered.

The following complications and sequelæ occurred:—

Hæmorrhage	4 cases
Broncho-pneumonia	3 „
Phthisis	2 „
Perforation	2 „
Relapse	1 case.
Pneumonia	1 „
Heart Disease	1 „
Peripheral Neuritis	1 „
Arterio Sclerosis	1 „
Hæmorrhoids	1 „
Peritonitis	1 „

TABLE LXVII.

The following table shows the percentage of Typhoid Fever removals in Wards during 1910.

Ward.	Percentages.
St. Stephen's .....	...
Trinity	50'0
St. Michael's	100'0
St. John's	50'0
St. Silas's	16'6
St. Paul's	100'0
St. Peter's .....	...
St. Mary's	100'0
St. Matthew's	40'0
St. Thomas's ..	...
Park	50'0
St. Luke's.....	100'0
St. Mark's	100'0
St. Andrew's.....	100'0

TABLE LXVIII.

Showing cases of Scarlet Fever and Typhoid Fever removed to Hospital expressed at a percentage of the cases notified :—

Year.	Scarlet Fever.	Enteric Fever.
1895	56.0	45.4
1896	63.0	53.8
1897	61.0	51.4
1898	50.0	43.0
1899	47.0	54.0
1900	26.0	43.5
1901	26.7	59.5
1902	56.4	62.2
1903	69.0	60.8
1904	72.2	70.2
1905	71.6	62.2
1906	73.3	73.1
1907	70.9	57.3
1908	72.6	72.9
1909	75.0	65.2
1910	66.6	47.8

DIPHTHERIA.

Forty-two cases were admitted to the Hospital certified as Diphtheria. Four cases were negative, leaving 38 cases. One case certified as Scarlet Fever was not so, but was Diphtheria. Thus there were actually 39 cases.

Three of the negative cases were Scarlet Fever; these recovered. The fourth negative case—Septic Pharyngitis and Acute Pneumonia—died 18 hours after admission.

The necessity did not arise during the year for performing Tracheotomy.

One patient, No. 212, was admitted after having had Tracheotomy performed outside. This case was a boy, aged one year. He recovered and was discharged after a stay of 56 days in Hospital.

The following complications and sequelæ occurred amongst the Diphtheria patients :—

Albuminura	9 cases.
Antitoxin Rash	9 „
Rhinorrhœa	6 „
Paralysis of—	
Eye muscles	3 „
Palate	10 „
Legs	2 „
Irregular Action of Heart	5 „
Otorrhœa	2 „
Pneumonia	1 case.
Rheumatism	1 „
Anæmia	1 „

There were no Return Cases of Diphtheria during the year.

OUTBREAK OF SCARLET FEVER AMONGST DIPHTHERIA PATIENTS.

Two such cases occurred :—

(1) Female, 5½ years. Admitted January 3rd. Developed Scarlet Fever, February 2nd.

(2) Male, 4 years. Admitted, January 13th. Developed Scarlet Fever, January 18th.

TABLE LXIX.

The following Table shows the percentage of Diphtheria removals in Wards during 1910.

Wards	Percentages
St. Stephen's.....	...
Trinity	33·3
St. Michael's	75·0
St. John's	60·0
St. Silas's	66·6
St. Paul's	57·1
St. Peter's	100·0
St. Mary's	33·0
St. Matthew's .....	...
St. Thomas's	25·0
Park	42·8
St. Luke's	50·0
St. Mark's	53·5
St. Andrew's	23·1

TABLE LXX.—Deaths in the Fever Hospital during 1910.

No.	Date.	Name.	Age.	No. of Days in Hospital	Disease.
1	Jan. 4	M.A.R.	22 years.	8 days	Enteric Fever.
2	" 7	A.W.	1 year.	17 "	Scarlet Fever.
3	" 21	L.C.	5 years.	2 "	Scarlet Fever.
4	" 31	T.H.	4 "	19 "	Diphtheria.
5	Feb. 15	E.B.	4 "	4 "	Scarlet Fever.
6	" 16	J.Y.	4 "	8 "	Scarlet Fever.
7	Mar. 5	E.H.	10 "	11 hrs.	Scarlet Fever.
8	" 8	F.C.	48 "	18 "	Septic Pharyngitis and Acute Pneumonia.
9	" 24	M.H.	7 "	20 days	Scarlet Fever.
10	Apl. 1	H.S.	11 "	33 "	Scarlet Fever.
11	May 27	J.F.	2 "	25 "	Scarlet Fever.
12	" "	D.S.	3 "	17 "	Scarlet Fever.
13	June 6	M.A.	2 "	11 "	Scarlet Fever.
14	" 17	M.S.	6 "	5 "	Scarlet Fever.
15	" 18	W.B.W.	6 "	8 "	Scarlet Fever.
16	July 31	E.B.	4 "	2 "	Diphtheria.
17	Aug. 9	W.J.	8 "	5 "	Diphtheria.
18	" 10	T.K.	3 "	31 "	Scarlet Fever.
19	Sep. 16	G.E.P.	1½ "	16 "	Scarlet Fever.
20	" 22	H.G.	5 "	14 "	Scarlet Fever.
21	Oct. 11	J.H.	4 "	4 "	Diphtheria.
22	" 12	E.M.	4 "	24 "	Scarlet Fever.
23	" "	W.S.	24 "	9 "	Enteric Fever.
24	" 27	M.C.	32 "	2 "	Diphtheria.
25	" 30	M.E.C.	11 "	5 "	Enteric Fever.
26	Nov. 3	J.D.	2 "	6 "	Scarlet Fever.
27	" 10	J.W.A.	33 "	9 "	Enteric Fever.
28	Dec. 1	G.G.	6 "	2 "	Diphtheria.
29	" 9	G.M.I.	4 "	12 "	Scarlet Fever.
30	" 15	H.W.	8 "	3 "	Diphtheria.
31	" 21	F.H.	12 "	8 "	Enteric Fever.
32	" 24	F.B.	3 "	9 "	Diphtheria.
33	" 31	M.A.F.	54 "	12 "	Enteric Fever.

TABLE LXXI.

The following bacteriological work has been carried out at the Fever Hospital Laboratory during 1910.

Material Examined.	Positive	Negative	Total
FOR TUBERCLE BACILLI :			
Sputum	39	164	203
Udders	6	5	11
Other Organs	0	6	6
Urine	0	1	1
FOR DIPHTHERIA BACILLI :			
Throat Swabs	65	220	285
Nose Swabs ...	4	13	17
Pus from Ulcer.....	0	1	1
FOR TINEA :			
Hair	11	14	25
FOR ANTHRAX :			
Blood	0	2	2
Totals.....	125	426	551

CONVERSION OF PRIVY MIDDENS.

Eighteen Privy Middens have been ordered by the Health Committee to be converted during the year, compared with 99 during 1909.

I have referred fully in previous reports to the immense superiority of the fresh-water carriage system over the other types, such as privy middens and pail-closets.

Orders have now been obtained for most of the privy middens in the Borough, and I am looking forward to the time when none remain.

SCAVENGING.

I have referred previously to the desirability for removing contents of ash-bins, so that there should be as little pollution as possible of the surface of streets or back passages.

The following statements represent the work carried out in this branch during 1910, under the direction of Superintendent Marginson :—

Wet Ashpits emptied	848
Dry ,, ,, 	164,779
Ashes Tubs ,, 	441,824
Excreta Tubs ,, 	585,956
Excreta Tubs cleansed	585,858

Eight hundred and twenty-eight Loads Dry Ashes Refuse, and 189 Loads Midden Refuse were tipped during the year. The majority of these loads were from the outlying districts situated a long distance from the nearest Destructor, and a few when the Destructors have been closed down for repairs.

DESTRUCTORS.

An account of the four Destructors built and worked by the Blackburn Corporation was given in my Annual Report for 1905.

The Refuse during 1910 was destroyed at the following Destructors :—

AUDLEY DESTRUCTOR :

	Tns.	Cwts.	Qrs.
Dry ashes refuse	6,954	7	3
Midden refuse	66	0	0
Fish and Market refuse, diseased car- cases, etc.	1,291	2	3
Total	8,311	10	2

GREENBANK DESTRUCTOR :

Dry ashes refuse	10,385	6	0
Midden refuse	14	16	1
Fish and Market refuse	93	8	1
Total	10,493	10	2

WENSLEY FOLD DESTRUCTOR :

Dry ashes refuse	11,698	10	2
Midden refuse	14	5	0
Fish and Market refuse, diseased car- cases, etc.	223	4	1
Total	11,935	19	3

STORE YARD DESTRUCTOR :

Dry ashes refuse	2,242	15	2
Diseased carcasses, etc.	1	16	2
Total	2,244	12	0

TABLE LXXII.

REFUSE DESTROYED AT DESTRUCTORS, 1910.

Month	Dry Ashes Refuse			Midden Refuse			Fish, Carcases, Market Refuse, &c.			Totals.		
	T.	C.	Q.	T.	C.	Q.	T.	C.	Q.	T.	C.	Q.
Jan.	2865	19	1	14	12	2	139	1	3	3019	13	2
Feb.	3052	14	1	1	18	0	131	8	0	3186	0	1
Mch.	2932	4	1	16	18	3	127	0	1	3076	3	1
April	2905	8	1	5	0	2	124	18	3	3035	7	2
May	2439	2	2	9	14	0	124	13	0	2573	9	2
June	2441	13	2	8	17	0	132	3	1	2582	13	3
July	2403	16	2	7	10	0	138	12	1	2549	18	3
Aug.	2045	19	0	17	2	0	125	10	1	2188	11	1
Sept.	2415	5	1	4	16	0	147	6	1	2567	7	2
Oct.	2364	12	2	4	12	0	140	7	1	2509	11	3
Nov.	2693	9	3	2	1	2	124	11	0	2820	2	1
Dec.	2720	14	3	1	19	0	153	19	3	2876	13	2
Totals	31280	19	3	95	1	1	1609	11	3	32985	12	3

SEWAGE DISPOSAL.

The following is a brief account of the method of dealing with Blackburn Sewage, for which I am indebted to Dr. Pickard:—

The larger portion of the Sewage of the Borough is collected by gravitation at Witton, where it is screened and passed through catchpits to remove the gravel and rags which have obtained access to the sewers. It then travels to Samlesbury, a distance of $4\frac{1}{2}$ miles, in duplicate cast-iron pipe syphons and brick tunnels. A portion of the sewage from the low-lying districts is now lifted into the conduits by new electrically-driven centrifugal pumps, situated at Fenisccliffe Bridge. Another main conduit takes the sewage from Beardwood district to Samlesbury.

On arriving at Samlesbury, the sewage passes through a detritus tank into the septic tanks. These are two in number, and together hold six million gallons, being a dry-weather flow of about 30 hours. After septicisation, the sewage is treated with lime and sedimented in six tanks which have a total capacity of about one million gallons. The effluent from these tanks is then treated either on percolating sprinkler beds, or on double contact beds. The sprinkler beds, 19 in number and each 80 feet in diameter, are fitted with revolving distributors. They are constructed of rubble stone and filled to a depth of nine feet with broken stone and destructor clinker. The small amount of suspended matter in the effluent from the sprinkler beds is removed in five separator tanks. The sprinklers will deal with up to six million gallons of sewage per day, according to the strength of the sewage. There are twelve pairs of double contact beds, which are filled with graded stone, destructor clinker, and iron slag. A little over one million gallons of sewage per day is treated on these beds, the effluent from which passes directly into the river. There is also ample provision for the treatment of storm-water. This passes into ten tanks which were constructed for chemical precipitation and which together hold

1 $\frac{3}{4}$ million gallons. After sedimentation in these, the storm-water (in excess of six million gallons per day) is either distributed over about 400 acres of farm land contoured and partially drained for broad irrigation, or treated on the contact beds, which are then used as streaming beds.

WATER SUPPLY.

Blackburn has, fortunately, an excellent water supply. It is a moorland water, coming from the Brennand and Whitendale Valleys, about 20 miles from the Borough.

ANALYSIS OF WATER.

I am indebted to Dr. Pickard for the following results :—

TABLE LXXIII.

Typical Analyses of Blackburn Water. All four samples were drawn from the Main at the Technical School.

Date	18/4/10	13/6/10	25/10/10	5/12/10
Total Solids in Solution	4·80	3·92	5·40	5·52
Including Volatile Matter	0·40	1·72	1·80	1·80
Chlorides in terms of Chlorine	1·00	1·00	1·00	1·00
Saline Ammonia	0·0016	0·0013	0·0028	0·0028
Organic Ammonia	0·0132	0·0150	0·0100	0·0068
Nitrogen as Nitrates...	0·032	0·046	0·019	0·021
Permanent Hardness ...	3·64	2·48	2·21	1·70
Temporary Hardness ...	0·39	nil.	nil.	0·30

All results are in parts per 100,000.

Other samples have been analysed during the past year, but the above are representative ones.

I am indebted to the Borough Engineer for the following records of rainfall during 1910 in connection with the Blackburn Corporation Waterworks :—

Table LXXIV.—RAINFALL at the following Stations in the Counties of Lancaster and York.

DATE.	LANCASHIRE.										WEST RIDING OF THE COUNTY OF YORK.				
	Blackburn Waterworks Office, — — Elevation 436 Gauge 60ft. aboveground.	Blackburn Corporation Store Yard, — — Elevation 373	Blackburn High Level Pumping Station — — Elevation 600	Witton — — Elevation 315	— Corporation Park, — — Elevation 550	— Guide — — Elevation 650	Daisy Green — — Elevation 960	Pickup Bank — — Elevation 720	Holteston Sewage Works — — Elevation 680	Sambury — — —	Dunsop Houses — — Elevation 450	Breunand — — Elevation 820	Whitdale Cabinhill — — Elevation 830	Middle Knoll — — Elevation 1206	Baxton Fell — — Elevation 1540
1910.															
January	3.68	4.47	6.06	6.24	8.20	4.82	5.65	5.42	5.98	4.44	8.83	9.45	10.19	8.00	8.00
February	2.54	3.48	4.25	4.78	4.08	4.12	4.86	4.91	5.11	2.98	8.70	11.03	11.67	9.80	11.10
March ...	.70	.78	1.13	1.10	1.02	1.01	1.18	1.19	1.21	.87	1.49	1.99	1.90	1.80	2.20
April ...	2.84	3.06	3.82	4.07	3.94	4.33	4.65	4.48	4.95	2.78	4.75	5.24	4.69	3.50	3.40
May ...	2.81	3.13	3.63	3.84	3.85	4.23	4.20	4.25	4.39	3.34	4.24	4.32	3.58	2.90	3.00
June ...	3.65	3.24	3.17	3.40	3.38	3.58	3.63	3.58	3.74	2.72	3.12	3.56	3.46	3.00	3.40
July ...	3.39	4.26	5.47	5.28	4.37	4.81	5.07	5.12	5.39	4.78	6.47	7.95	7.18	6.60	6.70
August ...	5.01	5.34	6.91	7.04	7.23	7.38	6.95	7.02	7.27	5.24	8.74	10.31	10.60	9.20	10.90
Sept'ber	.28	.33	.67	.59	.63	.57	.71	.69	.73	.42	.94	1.45	1.26	1.10	1.00
October	2.88	3.42	3.86	3.85	4.20	3.83	4.04	3.91	4.20	3.25	4.74	5.02	5.11	4.50	5.00
Nov'ber	4.04	4.69	5.56	5.51	5.34	5.30	6.32	6.42	6.05	5.36	6.49	7.53	7.45	5.40	5.50
Dec'ber	2.45	3.40	4.06	4.18	4.15	4.98	5.36	5.55	5.60	2.83	6.89	9.41	10.86	7.30	8.20
Totals for 1910	34.27	39.60	48.59	49.88	50.39	48.96	52.62	52.57	55.22	39.01	65.40	77.26	77.95	61.30	68.40

AVERAGE FOR TEN GAUGES :—47.11.

AVERAGE FOR SIX GAUGES :—70.68.

DISINFECTANTS.

The following quantities of Disinfectants have been used by the Health Department during 1910:—

1. Chloros, 1,510 gallons.
2. Chloride of Lime, 3 tons 8cwt. 1qr.
3. Sanitary Dry Lime, 9,920 7lb. bags.
4. Carbolic Powder, 194 gross 8½ doz. 1lb. dredgers.

The total cost of the above Disinfectants was £403 13s. 11d., compared with a cost of £375 5s. 9d. during 1909.

HOUSE DRAINAGE.

One of my Inspectors, namely Inspector Lees, devotes his whole time to this work, as it is found that house drains require special attention, continuously, throughout the town.

During the year 1910, 427 drains have been inspected, necessitating the application of the smoke-test in 640 cases, and of the water-test in 604 cases.

335 drains were found defective, and of these 242 were re-laid throughout and stood the water-test. Eight drains were partly re-laid and stood the water test. Also 28 were partly re-laid and passed on examination, owing to their being short lengths.

The instances of defective drains not relaid at the end of December, 1910, were 67.

During the relaying and repairing of drains, 1,689 visits were made, including the application of the water-test in 604 instances.

In addition to the above work, the following outstanding work has also been attended to.

The drains not relaid or other work outstanding on December 31st, 1909, were 69, and of these, 53 have been relaid together with 12 new branch drains which have been constructed, necessitating 53 water-tests; and also 12 were passed on examination, owing to their being short lengths; 73 new gullies, 83 new lip-dishstones, and 10 inspection chambers have been constructed. The surfaces of 23 yards have been flagged throughout, and 30 yards have been repaired. Eleven new pedestal wash-down closets have been provided and fixed, 27 rain-water spouts and 14 sink pipes have been repaired.

The above work, which was outstanding at the end of the year 1909, has been carried out during the early part of the year 1910, in a satisfactory manner.

The following statement shows in detail the drainage work which has been carried out during the year 1910:—

No. of Drains inspected	427
.. Drains tested on account of Typhoid Fever ...	36
.. .. on account of Diphtheria	86
.. .. owing to complaints	120
.. .. at the request of owners or new tenants	42
.. Drains tested owing to other causes	40
.. Letters from the Medical Officer of Health	201
.. Preliminary Notices served	13
.. Legal Notices served	6
.. Cases in which work was carried out by verbal arrangement	26
.. Visits to work in progress	1,689
.. Drains tested (a) smoke	640
.. Drains tested (b) water	604
.. Drains examined apart from above (a and b), by breaking down	78

No. of	Drains tested for leakage, with coloured solution	122
„	Drains found defective	335
„	Drains tested and found not defective	92
„	Drains relaid throughout which stood the water-test	242
„	Drains partly re-laid which stood the water-test (short lengths)	8
„	Drains partly re-laid and passed on examination (short lengths)	28
„	Defective drains not re-laid at the end of December, 1910	67
„	Drains opened and cleansed (not re-laid)	4
„	Defective gullies re-placed	364
„	New lip-dishstones provided	371
„	Inspection chambers provided	81
„	Slop-water closets and drains opened and cleansed	20
„	Down-spouts repaired	127
„	Soil-pipes replaced or repaired	27
„	Surface of the yards flagged after drains re-laid	43
„	Surface of the yards repaired after drains re-laid	205
„	Pail-closets converted to W.C.'s	5
„	Sink-pipes repaired	61
„	Useless drains removed from cellar premises ...	4
„	Slop-water closets converted to pedestal wash-down W.C.'s	6
„	Flushing apparatus repaired	31
„	New pedestal wash-downs provided	45

HOUSING OF THE WORKING CLASSES.

At a meeting of the Health Committee, held on May 9th, 1910, I was instructed to prepare a Report on the lines of my Report dated June, 1908, concerning the present position of the Housing Question in Blackburn.

This resolution was confirmed at a meeting of the Town Council held on June 2nd, 1910.

Arrangements were made at once for this further inquiry to be carried out by the Inspectors of the Health Department, in addition to their routine work.

It was not possible to visit the 20,000 houses as in the previous investigation. Accordingly, the 847 houses specially named and printed in my Report dated June, 1908, were again visited for this purpose.

In addition to these houses, many other houses were visited during 1910, and inquiries were made as to overcrowding.

Therefore, this section of the Report has been divided into the four following sections:—

A.—Visitation of 847 houses in connection with the Special Overcrowding Inquiry.

B.—Visitation of 330 houses in connection with the Housing and Town Planning Act.

C.—Visitation of 747 houses in connection with the Infectious Diseases Notification Act. (These 747 houses contained nine houses already included in the above-named 847 houses.)

D.—Visitation of 27 houses alleged to be overcrowded.

So that, during the year 1910, a total number of 1,942 houses were visited, and these visits involved, amongst other particulars, inquiries as to the number and ages of the inmates, and bedroom accommodation.

This section, therefore, deals with the Housing of the Working Classes of Blackburn, mainly from the point of view of overcrowding.

An inquiry was also made, on one day, as to the number of empty houses in the town. The rents of these houses were obtained, and are given herewith.

There has been a considerable amount of emigration from Blackburn during 1910.

SECTION A.

VISITATION OF 847 HOUSES IN CONNECTION WITH THE SPECIAL OVERCROWDING INQUIRY.

It will be remembered that in accordance with instructions received from the Health Committee, on August 22nd, 1907, the previous inquiries were commenced in September, 1907, by the staff of the Health Department, with the object of discovering the extent to which overcrowding of dwelling-houses occurred, and also whether or not difficulty was experienced in obtaining dwelling-houses in the Borough.

The results of that inquiry were printed in June, 1908, and submitted to the Health Committee.

Reference should be made to that Report for detailed information concerning the houses which were visited.

It may be convenient, however, if I give a brief summary of my previous investigation carried out in 1907 and 1908.

Information respecting number of families, number of inmates, number and size of bedrooms, rent, number of rooms downstairs, and baths were obtained at 20,000 houses. These houses included the whole of the centre of the town, and all the poor property.

Of the 20,000 houses investigated, only those were printed, namely, 847, in the above-mentioned Report which contained six or more inmates, because it was extremely unlikely that any question of overcrowding could arise in the remaining houses. Accordingly, in the former report, full details were published

regarding 847 houses which contained six or more inmates. Of course, *all* these houses were *not* overcrowded. That list contained every possible house which *might* be overcrowded.

It is necessary to have as clear a conception as possible as to the meaning of the term "overcrowding."

"Overcrowding" is a term which has several definitions and standards. For example, houses may be overcrowded to the acre, families to the house, persons to the room, or persons to the acre. It is clear that some of these definitions and standards depend upon the size of house and size of room. Hence it is usual in considering the interior of dwellings to adopt the standard of cubic space. Another difficulty arises as to the amount of cubic space which should be allowed per head in bedrooms. There is no standard prescribed by the Public Health Acts regarding the amount of cubic space which should be allowed per head in private dwellings.

The standard which has been adopted in this Report for purposes of comparison is that laid down by the Local Government Board for Common Lodging Houses in sleeping rooms, namely, 300 cubic feet per head for adults. Two children under the age of 10 years have been considered as one adult.

In the previous Report, out of the 847 houses named, containing 1,722 bedrooms, there were found 332 bedrooms with a cubic capacity of less than 300 cubic feet per head.

These 332 overcrowded bedrooms were found in 291 houses out of 847 houses.

In the present inquiry, these 847 houses, when re-visited, were found to contain 160 bedrooms with a cubic capacity of less than 300 cubic feet per head.

These 160 overcrowded bedrooms were found in 151 houses out of the 847 houses.

It will, therefore, be seen that the overcrowding in these houses during the past two years has diminished to the extent of over 50 per cent.

Notices to abate overcrowding have been sent where necessary.

On July 13th, 1910, extra help was obtained and a survey was made of the whole town in order to ascertain the number of houses "To Let." It was found on that day that the following dwelling-houses were empty :—

200	houses	with	two	bedrooms.
141	,,	,,	three	bedrooms.
29	,,	,,	four or five	bedrooms.

The following statement shows the various rents of these empty houses :—

RENTS OF 200 EMPTY HOUSES CONTAINING TWO BEDROOMS.

s. d.				
2	at	3	0	per week.
3	,,	3	3	,,
9	,,	3	6	,,
1	,,	3	8	,,
4	,,	3	9	,,
14	,,	4	0	,,
11	,,	4	2	,,
19	,,	4	3	,,
6	,,	4	4	,,
3	,,	4	5	,,
34	,,	4	6	,,
11	,,	4	8	,,
15	,,	4	9	,,
17	,,	4	10	,,
19	,,	5	0	,,
9	,,	5	3	,,
2	,,	5	4	,,

s. d.		
3	at 5 6	per week.
3	„ 5 9	„
1	„ 6 0	„
1	„ 6 2	„
1	„ 6 3	„
3	„ 6 6	per week—Two bedrooms and bathroom.
2	„ 6 8	Do.
2	„ 7 3	Houses and shops.
3	„ 7 6	Shops and dwelling-houses.
1	„ 8 0	Two bedrooms and bathroom.
1	„ 8 6	Stable and house.

 200

RENTS OF 141 EMPTY HOUSES CONTAINING THREE BEDROOMS.

s. d.		
2	at 4 0	per week.
3	„ 4 9	„
1	„ 5 0	„
3	„ 5 3	„
3	„ 5 4	One house and shop.
1	„ 5 6	„
1	„ 5 8	„
6	„ 5 9	„
6	„ 6 0	One house and shop.
6	„ 6 3	„
10	„ 6 6	„
10	„ 6 9	„
20	„ 7 0	One house and shop.
4	„ 7 3	„
14	„ 7 6	„
3	„ 7 8	„
12	„ 8 0	One house and shop.
5	„ 8 6	„
1	„ 9 0	House and shop.
1	„ 9 3	„
8	„ 10 0	Two houses and shops.

	s.	d.	
1 at 10	6		per week.
1 „ 12	0		„
2 „ 11	0		„
1 „ 15	0		„
1 „ 5	9		per week and rates.
1 „ 7	0		„ „
7 „ 7	6		„ „
1 „ 8	0		„ „
1 „ 8	6		„ „
2 „ 10	0		„ „
1 „ 11	6		„ „
1 „ 12	0		„ „
1 „ 14	0		„ „

 141

RENTS OF 29 EMPTY HOUSES CONTAINING FOUR OR FIVE BEDROOMS.

	s.	d.	
1 at 5	0		per week.
1 „ 5	10		„
1 „ 6	0		„
2 „ 7	6		„
1 „ 8	0		„
4 „ 10	0		„
1 „ 10	6		„ House and shop.
1 „ 11	2		„ House and shop.
3 „ 7	6		per week and rates.
3 „ 8	10		„ „
1 „ 9	6		„ „
3 „ 10	0		„ „
1 „ 11	0		„ „
3 „ 13	6		„ „
1 „ 15	0		„ „
2 „ 19	0		„ „

The above-named empty houses do not include the dwellings then in course of erection or those nearing completion.

In this connection it is interesting to note that, during the year 1910, plans were passed for the erection of 186 new dwelling-houses in the Borough.

It will thus be seen that there were sufficient empty houses in the town to accommodate the inmates of these overcrowded houses.

Of course, many of these might have been more conveniently situated as regards employees reaching their work.

In my previous report it was stated that, out of the 20,000 houses visited for the purpose of that inquiry, 182 houses had bathrooms.

It should also be stated that the total number of houses in Blackburn is 31,800, and that the total number of houses with baths in Blackburn is 6,320.

SECTION B.

VISITATION OF 330 HOUSES IN CONNECTION WITH THE HOUSING AND TOWN PLANNING ACT.

As the administration of this Act has recently been undertaken by the Health Committee, and as it now forms such an important part of the work of the Health Department, I have included some details respecting that Act.

During the Winter Session of Parliament, 1909, the Housing, Town Planning, etc., Act of 1909 was passed. The object of this Act is "to amend the law relating to the housing of the working classes, to provide for the making of town planning schemes, and to make further provision with respect to the appointment and duties of County Medical Officers of Health, and to provide for the establishment of Public Health and Housing Committees of County Councils."

It is divided into four parts, and six schedules.

In December, 1909, the Local Government Board issued a circular-letter and a memorandum on the above-named Act.

The first part of the Act deals with the housing of the working classes, and it appears that this part is to be construed as one with the Housing of the Working Classes Acts, 1890-1903, and may be cited together with those Acts as The Housing of the Working Classes Acts, 1890-1909 (Section 76). In it The Housing of the Working Classes Act, 1890, is referred to as "The Principal Act," and that Act, and any Act amending it, including the new Act, are collectively referred to, as "The Housing Acts" (Section 51).

Part 3 of the Principal Act can only be put into operation in areas for which it had been formally adopted. In Blackburn this Act was adopted in 1897.

It is not necessary for me to refer to those Sections of The Housing, Town Planning, etc., Act, 1909, relating to acquisition of land for the purpose of the Housing Acts, purchase moneys, donations for housing purposes, loans, etc.; the only Sections to which I will refer relate specially to the work of the Health Department.

Sections 14 and 15 of the new Act relate to the letting for habitation by persons of the working classes a house or part of a house.

In these Sections there is to be an implied condition that the house was at the commencement of the holding in all respects reasonably fit for human habitation, and, in Blackburn, this Section will apply to any house, or part of a house, let at a rent not exceeding £26 per annum. But the condition above referred to is not to be implied when a house, or part of a house, is let for a term of not less than three years upon the terms that it be put by the lessee into a condition reasonably fit for occupation, and the lease is not determinable at the option of either party before the expiration of that term.

Section 15 of the Act establishes a new and important principle in regard to the contracts for letting houses to which Section 14 applies. That is to say, in Blackburn, for any house or part of a house which is let for less than £26 per annum, this enactment is designed to secure that such house shall, during the holding, be kept by the landlord in all respects reasonably fit for human habitation, and it provides machinery for remedying any default on the part of the landlord in this respect. Thus, it provides that Section 14 shall, as respects contracts to which that Section applies, take effect as if the condition implied by it included an undertaking that it shall, during the holding, be kept by the landlord in all respects fit for human habitation. The landlord or the local authority or any person authorised by him or them in writing may at reasonable times, on giving 24 hours' notice in writing to the tenant or occupier, enter any house, premises or building to which this Section applies, for the purpose of viewing the state and condition thereof. If the implied undertaking is not complied with in the case of any house to which it applies, the local authority must give notice to the landlord requiring him, within a reasonable time, not less than 21 days, to carry out such work as will make the house reasonably fit for human habitation. The landlord has then the opportunity, within 21 days, of declaring his intention of closing the house for human habitation, and a closing order will thereby be deemed to have become operative. If the landlord does not make such declaration, and fails to carry out the work required by the local authority, that authority has the power to do the work and recover the expenses from the landlord. The landlord has a right of appeal to the Local Government Board against any notice or order made under the foregoing provisions.

No proceedings are to be taken in respect of notices requiring works, order or demand whilst the appeal is pending.

In this connection, the Town Clerk has pointed out previously that there is no provision in the Act or in the procedure rules made by the Local Government Board requiring any notice to be given to the local authority either of the lodging or of the allowance of an appeal.

The Local Government Board have stated that it will be advisable for the Council, where practicable, to resort to the provisions of the Section for securing that houses within the rental limits are put by the landlord into habitable repair, in preference to enforcing the powers conferred upon them by Sections 17 and 18 in regard to the closing and demolition of houses which become unfit for human habitation. At present the work of closure and demolition in Blackburn are obtained by Sections 111 and 112 of The Blackburn Improvement Act of 1882. These Sections are very useful and they work satisfactorily.

The duty is now imposed upon the local authority of causing to be made, from time to time, an inspection of their district with a view to ascertaining whether any dwelling-house in it is in a state so dangerous or injurious to health as to be unfit for human habitation.

A further duty is also imposed upon the local authority to comply with such regulations and to keep such records as may be prescribed by the Board. This is a very important duty.

The new Act does not in any way prescribe the procedure to be adopted by the local authority before making the closing order. This matter is left to their discretion.

The local authority must determine a closing order made by them if they are satisfied that the dwelling-house has been rendered fit for human habitation, and the owner is given a right of appeal to the Board against the refusal on the part of the authority to do so.

Special provisions have been made by Sub-Section 7 of Section 17 in regard to underground rooms habitually used as sleeping places, which, unless they conform to certain conditions, are liable to be regarded as dwelling-houses unfit for human habitation, and as such liable to have closing orders made in regard to them.

These provisions came into operation on July 1st, 1910, but I am not aware that there are any underground rooms habitually used as sleeping places in Blackburn.

Also the question of back-to-back houses does not affect Blackburn,

Every opportunity has been taken in the past of closing, and, when necessary, of demolishing back-to-back houses in the Borough. Also any further erection of back-to-back houses in the Borough has been prohibited.

The following is a copy of the Housing (Inspection of District) Regulations issued by the Local Government Board in September, 1910.

STATUTORY RULES AND ORDERS, 1910.

No. 919.

HOUSING OF THE WORKING CLASSES, ENGLAND.

Unhealthy Houses.

THE HOUSING (INSPECTION OF DISTRICT) REGULATIONS, 1910.

DATED SEPTEMBER 2ND, 1910.

(55,578)

To the several Local Authorities in England and Wales for the purposes of Part II. of the Housing of the Working Classes Act, 1890 :—

And to all others whom it may concern.

Whereas by Sub-Section (1) of Section 17 of the Housing, Town Planning, etc., Act, 1909, it is enacted that it shall be the duty of every local authority within the meaning of Part II. of the Housing of the Working Classes Act, 1890 (hereinafter referred to as "the local authority") to cause to be made, from time to time, inspection of their district, with a view to ascertain

whether any dwelling-house therein is in a state so dangerous or injurious to health as to be unfit for human habitation, and that for that purpose it shall be the duty of the local authority, and of every officer of the local authority, to comply with such regulations and to keep such records as may be prescribed by the Local Government Board.

Now, therefore, we, the Local Government Board, in pursuance of the powers given to us in that behalf, by this Order, prescribe the following Regulations; that is to say:—

Article I.—(1) The local authority shall, as early as practicable after the date of this Order, take into consideration the provisions of Sub-Section (1) of Section 17 of the Act of 1909, and shall determine the procedure to be adopted under these Regulations, to give effect to the requirements of that Sub-Section in regard to the inspection of their District from time to time.

(2) The local authority shall as part of their procedure make provision for a thorough inspection to be carried out from time to time according to the varying needs or circumstances of the dwelling-houses or localities in the district of the local authority.

(3) The local authority shall cause to be prepared from time to time by the Medical Officer of Health, or by an officer designated by them, but acting under his direction and supervision, a list or lists of dwelling-houses, the early inspection of which is, in the opinion of the Medical Officer of Health, desirable. The list or lists may, if thought fit, relate to the dwelling-houses within a defined area of the district without specifying each house separately therein.

Article II.—The inspection under and for the purposes of Sub-Section (1) of Section 17 of the Act of 1909 shall be made by the Medical Officer of Health, or by an officer designated by the local authority but acting under his direction and super-

vision, and the officer making inspection of any dwelling-house shall examine the state of the dwelling-house in relation to the following matters, namely :—

- (1) The arrangements for preventing the contamination of the water supply.
- (2) Closet accommodation.
- (3) Drainage.
- (4) The condition of the dwelling-house in regard to light, the free circulation of air, dampness, and cleanliness.
- (5) The paving, drainage, and sanitary condition of any yard or out-houses belonging to or occupied with the dwelling-house.
- (6) The arrangements for the deposit of refuse and ashes.
- (7) The existence of any room which would, in pursuance of Sub-Section (7) of Section 17 of the Act of 1909, be a dwelling-house so dangerous or injurious to health as to be unfit for human habitation.
- (8) Any defects in other matters which may tend to render the dwelling-house dangerous or injurious to the health of an inhabitant.

Article III.—Records of the inspection of dwelling-houses made under and for the purposes of Sub-Section (1) of Section 17 of the Act of 1909 shall be prepared under the direction and supervision of the Medical Officer of Health, and shall be kept by the officer of the local authority making the inspection or by some other officer appointed or employed for the purpose by the local authority.

The records may be kept in a book or books or on separate sheets or cards, and shall contain information, under appropriate headings, as to—

- (1) The situation of the dwelling-house, and its name or number.
- (2) The name of the Officer who made the inspection.
- (3) The date when the dwelling-house was inspected.
- (4) The date of the last previous inspection and a reference to the record thereof.
- (5) The state of the dwelling-house in regard to each of the matters referred to in Article II. of these Regulations.
- (6) Any action taken by the Medical Officer of Health or other officer of the local authority, either independently or on the directions of the local authority.
- (7) The result of any action so taken.
- (8) Any further action which should be taken in respect of the dwelling-house.

Article IV.—The local authority shall, as far as may be necessary, take into consideration at each of their ordinary meetings the records kept in pursuance of Article III. of these Regulations, and shall give all such directions and take all such action within their powers as may be necessary or desirable in regard to any dwelling-house to which the records relate, and a note of any directions so given and the result of any action taken shall be added to the records.

Article V.—The Medical Officer of Health shall include in his Annual Report information and particulars in tabular form

in regard to the number of dwelling-houses inspected under and for the purposes of Section 17 of the Act of 1909, the number of dwelling-houses which, on inspection, were considered to be in a state so dangerous or injurious to health as to be unfit for human habitation, the number of representations made to the local authority with a view to the making of closing orders, the number of closing orders made, the number of dwelling-houses the defects in which were remedied without the making of closing orders, the number of dwelling-houses which, after the making of closing orders, were put into a fit state for human habitation, and the general character of the defects found to exist. He shall also include any other information and particulars which he may consider desirable in regard to the work of inspection under the said Section.

Article VI.—The Medical Officer of Health and any other officer of the local authority shall observe and execute all lawful orders and directions of the local authority in regard to or incidental to the inspection of the district of the local authority under and for the purposes of Section 17 of the Act of 1909, and the execution of these Regulations.

Article VII.—In these Regulations “the Act of 1909” means the Housing, Town Planning, etc., Act, 1909.

Article VIII.—These Regulations may be cited as the Housing (Inspection of District) Regulations, 1910.

Given under the Seal of Office of the Local Government Board, this Second day of September, in the year One thousand nine hundred and ten.

(L.S.)

JOHN BURNS.

H. C. Monro.

President.

Secretary.

In order that the clauses relating to the Housing of the Working Classes in the Housing, Town Planning, etc., Act, 1909, might be followed satisfactorily in Blackburn, authority was given at the meeting of the Health Committee, held on 9th May, 1910, that the necessary reorganisation of the staff of the Health Department should be made.

The above-named re-adjustment was carried out as follows :—

Certain work hitherto carried out by the four District Inspectors in connection with the administration of the Food and Drugs Acts, taking of smoke observations, etc., were transferred to one of those four district inspectors, and he was made a special inspector for those purposes. To the vacant position thus created an extra inspector was appointed.

This alteration has enabled each of the four district inspectors to devote regularly a greater portion of his time to the Housing of the Working Classes than has been possible hitherto.

A list was then prepared of the houses in each of the district inspectors' areas which it was deemed desirable should be inspected as early as possible.

I then prepared the following inquiry sheet so that one could be filled up for each of the above-named houses, and the necessary arrangements were made for filing these records.

Street. Number of House.

Date of Inspection

Name of Tenant

Name of Owner or Agent

Weekly Rent

Number of Rooms

Scullery Yes No

Sink Stone Waste Pipe	
Cubic Space of Bedrooms	<div style="display: inline-block; vertical-align: middle; font-size: 3em; line-height: 1;">{</div> <div style="display: inline-block; vertical-align: middle;"> 1 2 3 4 </div>
Fireplaces in Bedrooms	
Number and Ages of Inmates	
Bath Yes No	
Bath Waste Pipe	
Inside W.C. Type	
Cistern Overflow	
Ventilation of House	
Lighting of House	
Window Frames	
Cellar Yes No	
Internal Walls, Floors and Staircase	
Cleanliness of House	
Dampness of House	
Damp-proof course	
Chimney Stacks, Roof, Eaves and Down-spouts	
Soil Pipe Position Ventilation	
Backyard Condition Structures	
Outside W.C. Type	
Gulleys, Inspection Chamber	
Drainage	
Ash Receptacles Type	
Animals kept	
Nuisances	
Any Trade or Business	
Work recommended	
Date and kind of notice sent	
Result of Notice	
Water Supply Tap in house	
Remarks	

Between September and the end of December, 1910, 330 houses have been inspected under the Housing and Town Plan-

ning Act by the four District Inspectors, and full particulars were obtained in accordance with the form given above.

Amongst these 330 houses, seven houses were found to be overcrowded.

The necessary steps were taken to abate the overcrowding.

The following particulars show the positions of the 330 houses in the four districts respectively, viz. :—

No.	I. District	.....	80	houses inspected.
„	II.	„	.....	51 „ „
„	III.	„	.....	77 „ „
„	IV.	„	.....	122 „ „
				—
Total				.....330

NO. I DISTRICT.

Bates Street	.....	14
Rodgett Street	.....	14
Mill Street	.....	7
Printer Street	.....	5
Barnes Street	.....	10
St. Clement's Street	.....	3
Back St. Clement's Street	.....	2
Bottomgate	.....	2
Rosehill	.....	7
Acorn Street	.....	4
Shackleton Street	.....	12
		—
Total		..... 80

Of these 80 houses, three were overcrowded. Defects were found at all these 80 houses, but at 42 the defects were of a minor character.

The remaining 38 houses will receive further consideration so that the more extensive alterations necessary may be carried out, and, in default, they will be recommended for closure. I believe that the majority of these will be altered without closure.

No. 2 DISTRICT.

Alfred Street	4
Brookhouse Lane	3
Old Mill Street	21
Stanley Street	17
Walmsley Street	3
Whalley New Road	3
<hr/>	
Total	51

Of these 51 houses, two were overcrowded. Defects were found at 50 of these 51 houses, but at 37 these defects were of a minor character.

The remaining 13 houses will be considered further for alteration and, in default, will be recommended for closure. I believe that the majority of these will be altered without closure.

No. 3 DISTRICT.

George Street West	40
Lyon Street	37
<hr/>	
Total	77

None of these 77 houses were overcrowded. Defects were found at 73 of these 77 houses, but at 54 these defects were of a minor character.

The remaining 19 houses will be considered further for alteration, and, in default, will be recommended for closure. I believe that the majority of these will be altered without closure.

No. 4 DISTRICT.

Back Pitt Street	5
Hargreaves Lane	6
Crook Street	13
Pomfret Street	7
Troop Street	33
Penny Street	6
Moor Street	37
Starkie Street	11
King Street	2
<hr/>	
Total	122

Of these 122 houses two were overcrowded. Defects were found at 76 of these 122 houses, and eight of them have been closed. I believe that the majority of the remaining 68 houses will be altered satisfactorily.

SECTION C.

VISITATION OF 747 HOUSES IN CONNECTION WITH THE INFECTIOUS DISEASES NOTIFICATION ACT.

During the year ending December 31st, 1910, the following houses have been visited with reference to cases of Infectious Disease which were notified to me by the medical practitioners of the Borough in connection with the Infectious Diseases Notification Act.

In all these inquiries, the number and ages of the inmates, together with bedroom accommodation, have been ascertained.

For this purpose a total number of 747 houses were visited, which included :—

625	houses	containing	Scarlet Fever,
86	„	„	Diphtheria, and
36	„	„	Typhoid Fever.

Of these 747 infected houses, nine houses had previously been visited in connection with the special inquiry as to overcrowding, and two of these nine houses were found to be overcrowded. These two houses are included amongst the 151 houses out of the 847 houses specially visited for overcrowding.

Amongst the remaining 738 infected houses there was no overcrowding.

SECTION D.

VISITATION OF 27 HOUSES ALLEGED TO BE OVERCROWDED.

Twenty-seven complaints of overcrowding were received by me during the year ending December 31st, 1910.

Of these 27 complaints, nine were anonymous.

They were all investigated.

In 18 cases no overcrowding existed, and in nine cases overcrowding did exist and notices were served to remedy the same.

Out of the nine anonymous complaints, one house was found to be overcrowded.

CONCLUSION.

A perusal of this Report will show that inquiries as to overcrowding have been made at 1,942 houses during the year 1910.

Overcrowding was discovered at 167 houses out of these 1,942 houses.

I believe that this overcrowding would be even less if there could be a more satisfactory distribution of the sexes in the bedrooms. Suggestions to this effect have been made and adopted in a considerable number of cases.

INSANITARY PROPERTY.

Houses ordered to be closed :

27 and 27a, Mincing Lane.

83 and 85, King Street.

25, 33, 35, and 39, Penny Street.

Houses ordered to be altered to the satisfaction of the Medical Officer of Health, or closed :

25, 29, 31, 33, 35, and 39, Penny Street.

Houses ordered to be demolished :

3, 5, and 7, Back Nelson Street.

SYSTEMATIC INSPECTIONS.

The Local Government Board require that the Medical Officer of Health, in reporting his proceedings and advice, should put on record whether he has made systematic inspections of his district. By "systematic inspections" are meant inspections independent of such inquiries as the Medical Officer of Health

may have to make into particular outbreaks of disease, or into unwholesome conditions to which his attention has been specially called by complaints or otherwise ; and such inspections will include the house-to-house inspections which may be necessary in particular localities.

In the Annual Report for 1903 a statement was made, giving a description of the four districts into which the Borough has been divided, so that one of the four District Inspectors could be attached to each.

For census purposes the Borough has been divided into three districts, namely, Northern, Southern, and Witton and Livesey.

Each of these three districts has been divided into Enumeration Districts (*see* Map). Thus the Northern Division has been divided into 60 Enumeration Districts, the Southern Division into 49 Enumeration Districts, and the Witton and Livesey Division into 21 Enumeration Districts.

Such an arrangement greatly facilitates not only the systematic inspections, but also the keeping of records.

The following is a statement of the systematic inspections which have been carried out by the four District Inspectors during 1910. In addition, of course, large numbers of visits have been made in answer to complaints received, and also in reference to infectious diseases.

NO. 1 DISTRICT.

ENUMERATION DISTRICT.—15 NORTHERN.

Name of street.	No. of houses inspected.
10 to 32. Bates Street	12
1 and 3. Bates Street	2
1 to 13. Rodgett Street	7
2 to 14. Rodgett Street	7
2 to 10. Printer Street	5
1 to 13. Mill Street	7

ENUMERATION DISTRICT.—24 SOUTHERN.

Name of street.	No. of houses inspected.
1 to 19, Barnes Street	10
7 and 9, Barnes Street	2
11 to 15, Barnes Street	3
156 and 158, Bottomgate	2

ENUMERATION DISTRICT.—9 SOUTHERN.

2 to 14, Rosehill	7
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ENUMERATION DISTRICT.—25 SOUTHERN.

2 to 8, Acorn Street	4
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ENUMERATION DISTRICT.—10 NORTHERN.

1 to 17, Shackleton Street	9
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No. 2 DISTRICT.

ENUMERATION DISTRICT.—7 NORTHERN.

39 to 47, Alexandra Road	5
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ENUMERATION DISTRICT.—18 NORTHERN.

1 to 55, Cornelian Street	28
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ENUMERATION DISTRICT.—53 NORTHERN.

1 to 33, Stanley Street	17
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ENUMERATION DISTRICT.—35 NORTHERN.

Name of street.	No. of houses inspected.
2 to 8, Alfred Street	4
2 to 8, Brookhouse Lane	4
2 to 6, Walmsley Street	3
7, 11, 13, 17, 19, 23 to 27, Old Mill St. ...	8
2 to 26, Old Mill Street	14
5 to 9, Whalley New Road	3

No. 3 DISTRICT.

ENUMERATION DISTRICT.—4 WITTON & LIVESEY.

19 to 113, Witton Parade	48
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ENUMERATION DISTRICT.—49 NORTHERN.

2 to 58, Lawrence Street	28
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ENUMERATION DISTRICT.—44 SOUTHERN.

2 to 26, Lord Byron Street	13
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ENUMERATION DISTRICT.—30 NORTHERN.

4 to 56, George Street West	27
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ENUMERATION DISTRICT.—28 NORTHERN.

7a, George Street West	1
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ENUMERATION DISTRICT.—42 SOUTHERN.

1 to 21, George Street West	11
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ENUMERATION DISTRICT.—44 SOUTHERN.

Name of street.	No. of houses inspected.
2 to 24, Lyon Street	12
32 to 44, Lyon Street	7
1 to 29, Lyon Street	15
1 to 19, Hamlet Street	10
2 to 18, Hamlet Street	9

No. 4 DISTRICT.

ENUMERATION DISTRICT.—32 NORTHERN.

4 and 6, Freckleton Street	2
54 to 62, Canterbury Street	5
83 to 85, King Street	2

ENUMERATION DISTRICT.—49 SOUTHERN.

1 to 13, Pomfret Street	7
3, 5, 7, 16, 18, and 21, Hargreaves Lane ...	6

ENUMERATION DISTRICT.—38 SOUTHERN.

4 to 42, Troop Street	20
1 to 25, Troop Street	13

ENUMERATION DISTRICT.—8 SOUTHERN.

11 to 35, Starkie Street	10
2 to 48, Moor Street	15
1 to 57, Moor Street	19

ENUMERATION DISTRICT.—7 SOUTHERN.

25, 29, 31, 33, 35, and 39, Penny Street	6
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ENUMERATION DISTRICT.—20 SOUTHERN.

Name of street.	No. of houses inspected.
7 to 35, Crook Street	15

ENUMERATION DISTRICT.—34, SOUTHERN.

1 to 21, Black Diamond Street	11
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ENUMERATION DISTRICT.—18 SOUTHERN.

1 to 9, Back Pitt Street	5
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DEATH-RATES IN ENUMERATION DISTRICTS.

It is interesting to compare the annual death-rates of the various Enumeration Districts of the Borough.

They vary from 3.3 in District No. 14, Witton and Livesey Division, to 64.4 in District No. 1 of the Southern Division. This district, however, contains the Larkhill Street Common Lodging-house.

ECONOMIC VALUE OF A REDUCED DEATH-RATE.

It has been shown that each member of the community has a definite money value based upon the power of earning wages.

The value in the case of each male has been estimated by taking as the standard a labourer, and capitalising the wages earned by him, the means of subsistence being deducted.

The average net value of each male life is found to be £150. Assuming that one-half of the 453 lives gained in Blackburn during 1910, on the average of the previous ten years, were males, there would be a net gain to the wealth of the community of £33,975.

Assuming also that the remaining female lives were also equal to a certain money value, the net gain in wealth would exceed this sum.

TABLE LXXV.

NAME OF DISEASE	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	Average 1900 to 1909	1910
Cancer	0.77	0.71	0.69	0.70	0.81	0.85	0.80	0.84	0.79	0.78	0.77	0.92
Diarrhoea	1.33	1.04	0.53	0.76	0.94	0.70	1.28	0.41	1.12	0.44	0.85	0.57
Respiratory Diseases..	4.95	3.82	3.56	3.41	3.79	3.10	2.73	3.73	3.00	3.65	3.57	2.65
Measles	0.59	0.73	0.58	0.40	0.45	0.31	0.47	0.33	0.11	0.30	0.42	0.28
Erysipelas	0.02	0.02	0.02	0.007	0.02	0.01	0.06	0.02	0.02	0.01	0.02	0.02
Diphtheria	0.71	0.48	0.17	0.19	0.08	0.24	0.19	0.12	0.08	0.13	0.23	0.16
Scarlet Fever	0.65	0.45	0.22	0.09	0.09	0.57	0.24	0.15	0.14	0.38	0.29	0.19
Typhoid Fever	0.23	0.13	0.17	0.11	0.15	0.11	0.10	0.09	0.10	0.13	0.13	0.06
Whooping Cough	0.41	0.17	0.17	0.10	0.72	0.08	0.12	0.30	0.19	0.16	0.24	0.10
Old Age	0.75	0.77	0.82	0.96	1.15	1.04	1.07	1.19	1.04	1.24	1.00	0.95
Influenza	0.64	0.15	0.20	0.20	0.12	0.15	0.16	0.32	0.25	0.33	0.25	0.20
Premature Birth	0.74	0.53	0.53	0.63	0.60	0.50	0.53	0.57	0.48	0.44	0.55	0.46
Nervous Diseases	2.07	1.79	1.55	1.41	1.44	1.52	1.71	1.62	1.80	1.70	1.66	1.46
Digestive Diseases ...	1.22	1.13	0.73	0.56	0.59	0.63	0.58	0.63	0.63	0.66	0.73	0.46
Urinary Diseases ...	0.51	0.54	0.46	0.44	0.52	0.58	0.32	0.60	0.45	0.56	0.49	0.54
Phthisis	1.16	1.17	1.25	0.93	0.94	1.06	0.92	0.98	1.09	0.99	1.04	0.80
Heart Diseases	1.32	1.25	1.28	1.44	1.47	1.16	1.39	1.47	1.27	1.37	1.34	1.16
Other Tubercular Diseases (excluding Tabes Mesenterica)	0.39	0.44	0.57	0.48	0.34	0.42	0.44	0.39	0.30	0.29	0.40	0.24
Tabes Mesenterica	0.37	0.27	0.18	0.21	0.30	0.20	0.25	0.26	0.20	0.16	0.24	0.16
Ill-defined	1.43	0.85	0.94	0.57	0.37	0.85	0.63	0.63	0.51	1.49	0.82	0.73
Violence	0.55	0.52	0.47	0.45	0.43	0.45	0.51	0.52	0.56	0.50	0.49	0.40

Table showing gains and losses in the death-rate per 1000 persons living in the year 1910, as compared with the average rate of ten years, 1900 to 1909.

TABLE LXXVI. GAINS.

Name of Diseases.	Average Rate during ten years, 1900-09.	Rate during 1910.	Gains per 1000.	Probable number of lives gained.
All Causes	17.39	14.22	3.17	453
Diarrhœa	0.85	0.57	0.28	40
Respiratory Diseases	3.57	2.65	0.92	131
Measles	0.42	0.28	0.14	20
Erysipelas	0.02	0.02	0.00	0
Diphtheria	0.23	0.16	0.07	10
Scarlet Fever ..	0.29	0.19	0.10	14
Typhoid Fever ...	0.13	0.06	0.07	10
Whooping Cough ..	0.24	0.10	0.14	20
Old Age	1.00	0.95	0.05	7
Influenza	0.25	0.20	0.05	7
Premature Birth ..	0.55	0.46	0.09	13
Nervous Diseases ...	1.66	1.46	0.20	29
Digestive Diseases ..	0.73	0.46	0.27	39
Phthisis	1.04	0.80	0.24	34
Heart Diseases ..	1.34	1.16	0.18	26
Other tubercular diseases excluding Tabes Mesenterica }	0.40	0.24	0.16	23
Tabes Mesenterica ...	0.24	0.16	0.08	11
Ill defined	0.82	0.73	0.09	13
Violence	0.49	0.40	0.09	13
Other Diseases ...	1.86	1.71	0.15	21
			3.37	481

LOSSES.

NAME OF DISEASE.	Average rate during 10 y'r 1900-1909	Rate during 1910.	Losses per 1000	Probable No. of lives lost
Cancer	0'77	0'92	0'15	21
Urinary Diseases	0'49	0'54	0'05	7
			0'20	28

Nett gain, 3.17, or 453 lives.

The death of a person in a population of 136,996 corresponds to a rate of 0.007 per 1,000. Hence the saving or loss of a rate of 0.007 means the saving or loss of one human life; similarly 0.035 means the saving or loss of five human lives; and 0.070 means the saving or loss of ten human lives, therefore 3.170 means the saving or loss of 453 human lives.

BLACKBURN UNION. Poor Law Relief Statistics.
TABLE LXXVII.

	Half-year ended Lady Day, 1910.	Half-year ended Mich'lmas, 1910.	Total
Cost of Out-door relief in Township of Black- burn	£ s. d.	£ s. d.	£ s. d.
4935 2 8	4925 16 2	9860 18 10	
	Persons in receipt of relief on July 1, 1910	Persons in receipt of relief on Jan. 1, 1911	Average Number.
Males	343	320	
Females	644	685	
Children	512	608	
Total	1499	1613	1556

Statement of the number of Indoor Paupers relieved in the Blackburn
Union Workhouse.

	Persons in receipt of relief on July 1, 1910	Persons in receipt of relief on Jan. 1, 1911	Average Number.
Able-bodied	298	406	
Not Able-bodied	411	474	
Insane.....	146	159	
Children ...	77	70	
Totals	932	1109	1021
Numbers included in above statement who were inmates of the Workhouse Infirmary	231	214	223
Children in Cottage Homes	129	118	124
	Half-year ended Lady Day, 1910.	Half-year ended Mich'lmas, 1910.	
Vagrants	7462	8559	

I am indebted to Mr. C. E. Bygrave for these figures, which have an indirect bearing upon the health conditions and statistics of the town.

METEOROLOGICAL OBSERVATIONS.

The Meteorological Station is situated on an open site in the Corporation Park.

Daily readings of each instrument are taken at 9 a.m.
These instruments are :—

- 1.—Maximum Thermometer (Phillips's).
- 2.—Minimum Thermometer (Rutherford's).
- 3.—Hygrometer.
- 4 and 5.—Black and Bright Bulb Thermometers for Solar Radiation.
- 6.—Spirit Thermometer for Terrestrial Radiation.
- 7 and 8.—1ft. and 4ft. Earth Thermometers
- 9.—Rain Gauge.
- 10.—Anemometer.
- 11.—Sunshine Recorder.
- 12.—Barometer (Fortin), kept at the Health Office.

A full description of the above instruments appeared in my Annual Report for 1903.

The total rainfall during 1910 was 50.627 inches, compared with 44.69 inches during 1909.

During 1910 rain fell on 242 days, compared with 249 days during 1909.

The wettest months of 1910 were January and August, when there were 8.3 and 7.2 inches of rainfall respectively.

The highest readings of the 4ft. Thermometer during 1910 occurred on August 18th, 19th, 20th, and 21st, namely, 56.2 degrees Fahrenheit.

During 1910 there were 86 days without any bright sunshine, compared with 82 days during 1909, and 103 days during 1908.

TABLE LXXVIII.—METEOROLOGICAL REPORT FOR THE YEAR 1910.

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1910	Mean Pressure		Mean Relative Humidity.	Mean of Maximum and Minimum Temperature.		Mean Temperature at 9 a.m. Readings		Under-ground Temperature		Mean Black Bulb in Vacuo.	Mean Bright Bulb in Vacuo.	Absolute extremes of Temperature.			Mean depression of minimum on grass below the shade.	Total bright sunshine.	Most sunshine in one day.	Direction of the Wind.						Mean daily movement of wind.	Total rainfall.							
	Station Level.	Sea Level.		deg.	deg.	deg.	deg.	at 1 ft.	at 4 ft.			deg.	deg.	deg.				Date.	Lowest	Date.	Hrs. min.	Am't.	N.			N.E.	E.	S.E.	S.	S.W.	W.	N.W.
January ...	29.333	29.730	91.5	35.70	35.5	38.7	41.8	deg.	deg.	55.7	45.1	51.5	and 3rd	14.0	26th	26.9	48—0	7—20	1	1	0	1	1	12	11	4	212.4	8.300				
February	29.006	29.489	87.3	38.75	38.8	37.9	40.0	deg.	deg.	68.6	51.1	50.5	17th	29.0	9th	29.9	67—15	8—20	1	0	1	1	9	7	2	280.3	4.080					
March ...	29.752	30.149	81.0	41.90	41.5	40.7	41.3	deg.	deg.	80.7	58.9	57.5	30th	29.5	13th	30.2	124—30	9—55	3	2	4	0	3	5	9	5	174.8	1.040				
April	29.439	29.829	83.4	42.40	42.5	43.3	43.2	deg.	deg.	85.5	60.8	57.0	18th 20th	27.0 32.0	1st	30.2	103—55	10—50	3	2	3	2	4	5	9	2	193.3	3.945				
May	29.497	29.888	79.7	50.05	51.0	49.8	46.6	deg.	deg.	101.4	73.1	72.0	20th 22nd	41.0 43.0	8th	34.4	215—12	13—50	2	4	7	2	1	4	8	3	181.4	3.855				
June	29.542	29.892	77.6	56.25	57.1	56.6	52.4	deg.	deg.	106.6	78.5	74.5	20th	43.0	26th	43.1	182—50	14—0	2	2	5	0	3	5	8	5	165.2	3.380				
July	29.519	29.872	76.7	55.80	56.9	57.4	54.7	deg.	deg.	106.2	78.1	76.0	13th	43.0	24th	44.0	179—5	14—0	1	2	7	2	2	5	6	6	166.6	4.375				
August ...	29.486	29.836	83.5	56.95	57.4	57.1	55.5	deg.	deg.	101.2	75.1	72.0	11th	46.5	23rd	45.2	119—5	12—20	1	0	4	3	5	11	6	1	189.8	7.235				
September	29.878	30.247	79.8	53.25	53.8	54.1	54.3	deg.	deg.	97.1	72.0	68.0	28th	37.0	20th	40.3	124—45	11—0	3	1	0	3	1	0	2	7	6	104.3	0.650			
October ...	29.688	30.064	83.4	49.45	49.9	51.2	52.2	deg.	deg.	79.5	62.3	67.5	1st	36.0	20th	39.1	82—25	8—0	0	3	11	1	2	6	2	6	186.4	4.228				
November	29.201	29.607	85.9	36.85	36.6	40.9	46.3	deg.	deg.	60.9	46.9	49.0	12th 13th	26.0	22nd	25.9	78—25	7—0	3	2	2	1	3	4	10	5	130.1	5.341				
December	29.266	29.658	91.4	41.95	42.7	41.1	43.4	deg.	deg.	56.1	47.7	51.8	23rd	29.0	28th	32.8	29—25	5—15	0	3	2	1	7	6	7	5	253.2	4.198				

SUMMARY OF THE METEOROLOGICAL REPORT FOR 1910.

Mean monthly reading of the Barometer—29·855"

Highest daily reading of the Barometer—30·637"
on March 31st.

Lowest daily reading of the Barometer—28·511"
on November 7th.

Highest reading of the Maximum Thermometer—76°
on July 13th.

Lowest reading of the Minimum Thermometer—14°
on January 26th.

Total rainfall during the year—50·627 inches.

Number of days during the year on which rain fell—242.

The greatest number of days on which rain fell in one month—
29, in December.

The highest reading of the 4ft. Thermometer during the
year—56·2° on the 18th, 19th, 20th and 21st of August.

Number of days during the year without any bright sun-
shine—86.

SUMMARY OF WIND RECORDS

Number of days in the year on which the prevailing wind
was—

N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.
18	31	49	15	40	72	90	50	31

The total number of miles registered during the year
was—67,951.

The greatest number of miles registered during one day
was—698 on February 17th.

The least number of miles registered during one day
was—20 on June 21st.

TABLE LXXIX.—TOTAL AMOUNT OF BRIGHT SUNSHINE RECORDED ON EACH DAY DURING 1909.

MONTH.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total for each Month.
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
January	0 0	0 0	0 0	0 0	0 0	0 30	0 15	6 0	0 0	0 0	0 0	4 10	0 0	0 0	4 20	0 5	0 0	2 10	5 0	6 0	0 0	0 40	0 0	0 0	3 30	0 0	2 50	0 0	0 50	6 30	0 10	43 0
February.....	3 45	0 0	0 0	0 0	5 30	6 10	2 30	0 0	0 0	0 0	0 0	4 10	6 45	0 0	6 10	4 50	1 30	3 10	7 30	7 15	8 0	7 30	3 50	4 0	0 0	1 10	0 0	1 10	.....	.....	.....	84 55
March.....	1 5	0 0	3 0	7 25	5 15	0 0	0 0	4 20	0 0	0 0	0 10	3 50	0 20	3 20	6 10	5 15	4 20	0 0	1 50	3 20	1 20	2 50	0 0	0 0	0 10	3 30	4 45	0 0	0 55	0 0	0 20	63 30
April	9 30	5 40	0 0	0 0	10 5	9 5	9 30	7 30	10 30	10 30	4 0	2 50	1 50	8 0	10 15	2 0	0 35	5 30	4 15	10 0	8 0	6 0	8 30	1 30	5 0	2 40	3 40	3 30	10 10	11 40	.....	182 15
May.....	8 30	12 10	10 20	8 45	13 0	12 30	13 10	13 0	13 0	12 25	12 0	2 50	3 0	10 20	8 0	3 20	6 0	11 10	8 50	12 50	8 30	5 0	5 0	9 55	0 0	2 0	3 0	4 20	4 10	7 25	0 0	244 30
June.....	5 45	9 40	7 30	7 40	0 0	8 50	14 10	0 50	1 5	4 20	3 0	2 10	12 10	7 50	10 0	3 50	11 30	2 10	0 20	5 10	2 50	0 0	2 55	4 10	0 15	5 50	1 10	0 25	4 10	10 50	.....	150 35
July.....	7 40	11 30	0 25	3 15	0 0	1 0	2 45	11 25	0 20	4 30	1 5	13 30	2 0	1 25	2 10	0 0	7 37	3 30	8 0	3 5	0 5	1 20	9 10	0 0	2 50	4 50	0 30	12 30	0 20	6 10	0 50	123 47
August ..	0 10	1 20	5 30	5 30	7 0	12 35	12 0	10 0	12 10	2 20	4 15	11 45	7 15	0 0	8 50	0 20	3 10	1 40	6 0	0 10	6 20	7 10	0 0	0 0	0 0	4 40	2 50	4 30	0 10	2 5	7 0	156 45
September	2 20	10 0	0 10	0 30	9 30	4 0	1 50	3 30	1 3	3 0	5 25	1 15	0 25	3 50	6 0	0 12	3 20	2 20	6 0	6 40	1 20	4 0	0 55	1 10	0 30	0 0	0 0	0 0	2 50	1 30	.....	83 35
October	0 0	4 0	0 0	0 0	2 30	7 30	0 50	2 0	5 15	0 50	0 5	5 50	2 0	5 0	0 0	2 0	3 0	6 40	2 50	2 20	4 30	0 20	0 0	0 20	5 40	0 0	7 45	0 50	8 10	7 15	7 15	94 45
November	1 30	0 0	0 0	0 30	0 0	0 0	7 0	5 30	0 0	5 25	0 15	0 0	8 0	4 0	6 30	5 0	5 0	4 30	3 0	4 30	0 50	4 40	5 0	0 6	0 25	0 0	1 5	0 0	0 0	2 30	.....	85 16
December	0 0	0 0	0 25	2 10	4 0	0 0	0 5	3 18	0 0	0 0	0 0	0 0	0 0	0 45	0 35	0 5	0 0	0 30	0 0	1 20	0 0	0 0	0 0	4 0	5 0	1 5	0 0	0 0	2 10	0 0	2 30	27 58

TABLE LXXX. TOTAL AMOUNT OF BRIGHT SUNSHINE RECORDED ON EACH DAY DURING 1910.

MONTH.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total for each Month.
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
January	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 35	0 0	4 5	0 50	2 15	0 0	0 25	0 0	0 15	1 50	0 0	0 40	4 30	6 0	7 20	0 0	0 0	6 20	4 45	1 50	0 0	1 50	4 30	0 0	48 0
February	0 0	0 0	0 0	4 50	0 0	0 0	0 0	0 25	4 10	0 0	1 30	2 30	0 40	5 30	3 20	3 30	5 15	1 50	3 0	0 20	6 0	1 30	6 30	1 40	5 10	1 15	8 20	0 0	.....	.....	.....	67 15
March	7 55	0 0	2 50	8 0	5 50	2 10	4 15	0 0	2 30	5 30	0 50	2 15	7 20	0 30	8 50	0 0	5 25	6 20	0 50	1 0	4 0	9 30	0 0	0 0	0 0	5 15	1 0	7 50	9 55	7 40	7 0	124 30
April	9 0	8 0	2 0	1 0	0 0	5 20	4 0	0 10	0 0	4 30	6 0	0 0	0 35	10 50	2 10	2 5	5 30	0 0	2 0	0 0	3 15	1 45	4 40	6 35	1 25	7 0	6 0	1 0	8 50	0 15	.....	103 55
May	7 50	2 0	0 20	9 20	5 30	8 30	7 45	7 0	5 30	11 10	13 10	4 37	12 10	11 15	1 0	6 45	11 0	0 30	0 20	7 40	4 30	13 50	13 45	13 15	13 40	9 30	0 0	0 0	0 0	8 20	5 0	215 12
June.....	3 10	1 50	9 0	1 30	0 20	10 50	14 0	0 40	4 50	9 10	4 30	11 40	1 0	10 20	6 0	4 50	12 50	11 10	13 50	8 50	7 0	6 30	11 35	0 45	1 45	6 30	0 15	5 30	1 20	1 20	.....	182 50
July.....	4 50	1 45	4 50	8 5	1 5	0 0	0 50	0 20	13 40	13 15	11 0	12 15	14 0	14 0	4 5	13 30	6 20	13 5	1 30	0 0	4 30	5 0	5 20	0 45	2 55	2 15	3 10	1 15	7 0	7 0	1 30	179 5
August	5 20	2 45	3 40	10 0	12 0	4 50	0 0	1 0	6 0	12 20	9 20	0 20	2 40	6 40	9 30	6 30	5 50	4 15	1 30	2 50	0 0	2 10	1 40	2 5	0 0	1 30	2 15	0 0	0 40	0 30	0 55	119 5
September ..	7 55	0 0	11 0	7 30	10 15	7 10	4 0	3 45	4 40	0 30	1 0	1 5	5 30	3 10	0 0	4 30	5 10	0 0	4 30	8 45	6 40	5 25	2 10	0 0	0 0	0 30	6 30	5 0	0 0	8 5	.....	124 45
October	7 15	5 40	5 50	0 0	8 0	6 0	2 30	6 0	0 10	1 10	1 20	0 0	4 0	7 0	7 20	2 40	0 0	0 45	0 0	4 30	3 40	0 0	5 15	0 0	0 0	0 20	2 15	0 0	0 0	0 15	0 30	82 25
November	5 0	4 15	0 0	6 30	1 0	0 0	2 10	4 15	5 30	1 45	4 30	0 0	0 0	0 0	0 0	4 25	3 30	2 10	4 15	7 0	7 0	2 0	0 0	0 0	3 30	0 0	0 0	1 45	4 35	3 20	.....	78 25
December	0 0	0 0	0 30	0 0	0 0	0 0	3 15	0 0	0 0	0 0	1 0	0 0	2 0	2 45	0 0	0 0	0 0	4 40	1 0	0 0	0 0	1 40	0 0	3 0	2 0	0 0	5 15	0 0	0 20	2 0	0 0	29 25

MEAT INSPECTION AND FARM INSPECTION.

Full details respecting the Inspection of Meat and of Dairy Cattle will be found in the Report of the Veterinary Inspector, which follows my covering remarks.

The total number of carcasses destroyed shows a decrease of 59 carcasses when compared with the number destroyed during 1909.

The following are the figures of condemned carcasses for the last five years :—

Year.	1906	1907	1908	1909	1910
Beef	166 ...	135 ...	91 ...	88 ...	70
Mutton	91 ...	68 ...	119 ...	110 ...	114
Veal	87 ...	61 ...	48 ...	65 ...	27
Pork	22 ...	38 ...	41 ...	51 ...	43
Goats	2 ...	— ...	— ...	1 ...	2

The decrease was noticed chiefly in the number of carcasses of veal destroyed during 1910.

There has been an increase in the number of animals slaughtered at the Public Abattoir, but a decrease in the number of carcasses and amount of meat brought to the Abattoir during 1910, as compared with 1909.

The animals which have been examined have been classified into cows, heifers, bulls, bullocks, calves, and pigs.

A total number of 12,236 of these six groups of animals were slaughtered during 1910, of which 329 were tuberculous, or a percentage of 2.6.

Similar percentages since 1902 have been as follows :—

1902	6.0
1903	5.1
1904	6.0
1905	5.8
1906	4.8
1907	4.3
1908	3.2
1909	2.7

This indicates a progressive diminution in the amount of tuberculosis discovered amongst the animals slaughtered at the Blackburn Abattoir.

Tuberculosis was not present in any sheep out of a total number slaughtered of 42,465. This disease is excessively rare in sheep. During my experience I have only seen one case of tuberculosis amongst sheep.

Of the above 329 tuberculous carcasses, 54, or 16.4 per cent., were rejected.

The percentage of tuberculous carcasses rejected during 1904, 1905, 1906, 1907, 1908, and 1909, were 22.1, 19.4, 19.0, 15.7, 13.8, and 17.9 respectively.

Of the above 329 tuberculous carcasses, 227 were cows, or 68.9 per cent., compared with 64.0 per cent., in 1909. And of these 227 cows, 29, or 12.7 per cent., were rejected, compared with 16.6 per cent. of tuberculous cows rejected during 1909.

It is interesting to note that 324 of the 329 tuberculous animals had Tuberculosis of the Lungs. The serous membranes were the next most commonly affected parts.

A similar condition has occurred during former years.

The Table showing the tuberculous udders at the Public Abattoir is interesting. All these were examined microscopically at the Fever Hospital Laboratory.

The 13 tuberculous udders occurred in 2,742 cows slaughtered, or 0.4 per cent.

Similar percentages since 1902 have been as follows :—

1902	1.5
1903	1.9
1904	2.0
1905	1.7
1906	1.4
1907	1.4
1908	0.06
1909	0.7

Six of these 13 cows with tuberculous udders were giving milk until the day of slaughter.

None of this milk was being sold in Blackburn.

Regarding the extent of the tuberculous process in these 13 cows, four exhibited the disease so extensively that they were rejected.

One private slaughter-house has been closed during 1910. There are now 14 slaughter-houses in the Borough. As is well known, many difficulties stand in the way of a more rapid closure of these houses. There is no doubt that slaughtering and meat inspection could be carried out much more satisfactorily at the Public Abattoir if all the private slaughter-houses were closed.

Greater care is still needed during the transit of milk from the cow to the consumer in order to ensure a cleaner milk supply.

I have referred very fully to this question in previous reports.

VETERINARY INSPECTOR'S REPORT OF MEAT INSPECTION AND INSPECTION OF DAIRY CATTLE, ETC.

Public Health Office,

Blackburn, Jan. 31st, 1911.

To the Medical Officer of Health.

Sir,

I have pleasure in submitting to you my Report for the year 1910.

During that period, 1,946 diseased carcasses were examined at the Public Abattoir and Private Slaughter-houses in the Borough, 250 of which were rejected and destroyed as unfit for human food. Six immature carcasses of veal were also destroyed, making the total number of carcasses destroyed 256. Compared with last year, this return shows a decrease of 56 diseased carcasses and three immature calves.

During the year, 5,420lb. of unsound meat, 422 rabbits, 45 head of poultry, and a large quantity of fish were also destroyed. Compared with last year, this return shows an increase of 2,506lb. of meat, 328 rabbits, and 15 head of poultry. The total weight of the rejected carcasses, organs, meat, etc. (excluding fish), destroyed during the year, was 34 tons, 19cwt., which shows an increase over last year of 15cwt. 2qrs.

One private slaughter-house has been closed during the year. There are at the present time 14 private slaughter-houses in the Borough, where animals are slaughtered for sale as human food.

The following Tables refer to the number of animals slaughtered at the Abattoir, the amount of dead meat brought to the Abattoir, the number of tuberculous carcasses and udders examined, the number of carcasses destroyed, and numerous other particulars relating to the inspection of meat and dairy cattle.

The large increase in the number of diseased animals as mentioned above is due to the increased number of carcasses with diseased organs, principally *Distoma Hepaticum* of the Liver in sheep, which necessitated the rejection of that organ.

TABLE LXXXI.
NUMBER OF ANIMALS SLAUGHTERED AT THE
PUBLIC ABATTOIR

1910.	Beasts.	Sheep.	Goats.	Calves.	Pigs.
January	541	3595	...	139	484
February	547	3477	...	137	399
March	700	3460	...	320	389
April	510	2506	...	168	284
May	544	2819	1	143	254
June	480	4092	...	112	149
July	395	4015	...	71	163
August	457	3524	...	104	176
September	482	3955	...	77	209
October	520	3759	...	99	316
November	666	4289	1	125	577
December	514	2964	...	79	906
Totals	6356	42465	2	1574	4306

Compared with last year this table shows an increase of 1028 Sheep and one Goat, and a decrease of 59 Beasts, 901 Calves and 554 Pigs.

TABLE LXXXII.
NUMBER OF CARCASSES AND AMOUNT OF MEAT
BROUGHT TO THE ABATTOIR.

1910.	CARCASSES.		BEEF.			PORK.
	Beef.	Mutton.	Hind Quarters.	Buttocks	Clods	Boxes.
January	71 $\frac{1}{2}$	...	44	...	..	...
February ...	68 $\frac{1}{2}$	...	47	...	...	...
March	99	...	64	...	...	..
April	29	...	20	2	2	...
May	17	...	26	...	...	...
June	32	...	36	...	...	...
July	37	...	23	...	...	...
August	59	...	27	...	...	...
September	84 $\frac{1}{2}$	1	21	4	...	...
October ..	75 $\frac{1}{2}$	11	17	2	...	..
November	103	17	20	...	...	...
December .	60 $\frac{1}{2}$	...	6	...	...	...
Totals	736 $\frac{1}{2}$	29	351	8	2	

Compared with last year this table shows a decrease of 55 $\frac{1}{2}$ Carcasses of Beef, 18 Carcasses of Mutton, 394 Hind Quarters of Beef, 24 Buttocks and 41 Clods of Beef.

TABLE LXXXIII. TUBERCULOUS CARCASES EXAMINED AND REJECTED.

	Cows.		Heifers.		Bulls.		Bullocks.		Calves.		Sheep.		Pigs.		Totals.	
	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected
1910																
January ..	20	3	1	1	2		1		...	...	...	...	1	1	25	5
February ..	26	5	1	...	3	...	...	...	...	...	...	...	3	1	33	6
March	6	...	1	...	1	...	...	...	...	...	...	...	4	4	12	4
April	28	1	...	...	3	...	...	...	...	...	...	...	7	4	38	5
May	18	1	...	...	5	...	2	...	...	...	...	...	11	2	36	3
June	21	3	...	...	2	...	1	...	...	...	...	...	4	2	28	5
July	27	...	1	...	1	...	1	...	...	...	...	...	4	...	34	...
August	20	3	2	...	...	...	...	...	...	...	...	...	7	3	29	6
September ..	16	3	...	...	1	...	...	...	...	...	...	...	5	1	22	4
October	16	3	1	...	...	...	1	...	...	...	...	...	3	...	21	3
November	18	3	4	2	3	1	2	...	...	...	...	...	6	2	33	8
December	11	4	1	...	1	...	...	...	...	...	...	...	5	1	18	5
Totals	227	29	12	3	22	1	8	...	...	...	...	...	60	21	329	54

TABLE LXXXIV.—Tuberculous Cows exhibiting Tuberculous Disease in the Mammary Glands

1910	No. of Cow	Age.	Where From.	Extent of the Tuberculous Process.		Was she giving milk on the day of slaughter.	Was Milk from the farm sold in Blackburn.	Result of examination of the Carcase.
				Generalized	Localized			
Jan. 22	1	aged	Darwen	Yes	No	Left posterior quarter	No	rejected
Feb. 4	2	aged	Preston.....	Yes	No	Every quarter	No	rejected
April 4	3	aged	Salford.....	No	Yes	Left posterior quarter ..	Yes	passed
" 26	4	5 yrs.	Liverpool	No	Yes	Every quarter	No	passed
May 16	5	aged	Salford	No	Yes	Left anterior and posterior quarters	No	passed
" 24	6	aged	Liverpool.....	Yes	No	Right and left posterior quarters	No	rejected
" 30	7	4 yrs	Annan	No	Yes	Every quarter.....	No	passed
" 31	8	aged	Liverpool	No	Yes	Left anterior quarter.. ..	Yes	passed
June 6	9	5 yrs.	Salford ...	No	Yes	Right posterior quarter ..	Yes	passed
Sept. 22	10	aged	Salford ..	No	Yes	Right posterior quarter	Yes	passed
" 26	11	5 yrs.	Preston ...	No	Yes	Right and left anterior quarters... ..	No	passed
Oct. 12	12	4 yrs.	Whalley	Yes	No	Every quarter	No	rejected
Nov. 28	13	aged	Preston.....	No	Yes	Right anterior and posterior quarters ...	Yes	passed

TABLE LXXXV.—TUBERCULOSIS IN THE ANIMALS SLAUGHTERED DURING THE TWELVE MONTHS ENDING 31st DECEMBER, 1910.

EXTENT OF THE TUBERCULOUS PROCESS																
Kind of Animal.	Number Slaughtered.	Of which were Tuberculous	THORAX			ABDOMEN.							Bones	Testicles	Udders	Mesentery
			Lungs	Heart and Pericardium	Serous Membranes	Livers	Stomachs	Spleens	Kidneys	Intestines	Uteri	Serous Membranes				
Cows	2742	227	226	20	106	74	51	36	39	30	11	67	3	...	13	...
Heifers	684	12	13	4	8	7	3	3	4	4	..	4	...	...	...	...
Bulls	1096	22	22	1	9	5	3	3	1	1	...	6	...	...	...	...
Bullocks	1834	8	8	...	4	1	2	1	...	1	...	2	...	...	...	...
Calves	1574	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sheep	42465	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pigs	4306	60	55	1	7	58	6	13	4	1	...	1	8	1	...	2
Totals	54701	329	324	26	134	145	65	56	48	37	11	80	11	1	13	2

TABLE LXXXVI.

DISEASED CARCASSES EXAMINED, REJECTED, AND DESTROYED FOR DISEASES, etc., OTHER THAN TUBERCULOSIS.

CARCASSES.

BEEF.	MUTTON.	VEAL.	PORK.	GOATS.
1 Anthrax	1 Anthrax	6 Arthritis	3 Arthritis	2 Unmarketable (odourous)
2 Anasarca	13 Anasarca	4 Congested and ill-bled	2 Congested, ill-bled	
1 Cirrhosis of Liver and Emaciation	3 Anæmia	2 Emaciation	1 Conditions, &c. incidental to difficult parturition	
	1 Arthritis	1 Icterus		
4 Conditions, &c. incidental to difficult parturition	22 Congested and ill-bled	6 Immature	1 Nephritis	
1 Conditions, &c. incidental to strangulation	1 Cirrhosis of Liver	3 Joint-ill	1 Putrefaction	
		2 Malformation	1 Pneumonia	
1 Chronic Nephritis	3 Conditions, &c. incidental to difficult parturition	2 Pneumonia	1 Peritonitis	
2 Emaciation, &c.	1 Cysticercus Cerebralis	1 Unmarketable	7 Rachitis	
			1 Rheumatism	
1 Fractured Pelvis	1 Congestion of the Lungs		1 Swine Erysipelas	
1 Gastritis	7 Emaciation		1 Suffocated	
2 Pyrexia	1 Gastritis		2 Unmarketable	
1 Rheumatism	1 Icterus			
1 Parturient Apoplexy				
3 Rheumatic Arthritis	25 Parasitic Disease of lungs and liver			
5 Staggers				
2 Septicæmia	1 Putrefaction			
1 Pneumonia				
1 Suffocated	5 Pyæmia			
2 Septic Metritis	1 Pneumonia			
1 Symptomatic Anthrax	1 Peritonitis			
1 Traumatic Gangrene	3 Suffocated			
1 (Tubercular) Pneumonia	2 Tympanitis			
1 Ulceration of Stomach, &c.	21 Unmarketable			
1 Unmarketable				
Totals 37	114	27	22	2

Total Number of Carcases Destroyed.

Kind of Carcase—1910.

Beef.....	70—including 33 tuberculous, 1 anthrax and 1 symptomatic anthrax.
Mutton ..	114—including 1 anthrax.
Veal	27—including 6 immature.
Pork	43—including 21 tuberculous.
Goat	2
Total.....	256 carcases.

DISEASED ORGANS, &c. REJECTED & DESTROYED.

1910	Heads.	Sets of Lungs.	Hearts.	Diaphragms.	Livers.	Stomachs	Spleens.	Kidneys.	Udders	Intestines	Omentum	Mesentery
For Tuberculosis.	52	278	2	15	94	31	11	23	13	5	...	2
For diseases other than Tuberculosis.	25	88	32	6	1162	11		13	24	...	1	...
Totals...	77	366	34	21	1256	42	11	36	37	5	1	2

DISEASED TISSUES, ETC., FORWARDED TO THE FEVER HOSPITAL LABORATORY FOR EXAMINATION.

<i>Material.</i>	<i>Positive.</i>	<i>Negative.</i>	<i>Total</i>
Blood for anthrax bacilli	0	2	2
Sections of cows' udders for tubercle bacilli	8	5	13
Other organs	0	6	6
Totals	8	13	21

DISEASED ORGANS, ETC., FORWARDED TO THE PUBLIC HEALTH LABORATORY, MANCHESTER, FOR EXAMINATION.

	<i>Result of Examination.</i>
The Lungs, Liver and Kidney of a Pig	Tuberculosis.
Several enlarged Lymphatic glands. from a Ewe	Lymphomatous Tumours.

DISEASED, BRUISED, PUTRID, AND UNMARKETABLE MEAT
REJECTED AND DESTROYED APART FROM WHOLE CARCASSES.

1910.	Beef, Mutton, Pork and Veal.					lbs.
January	230
February
March	182
April	204
May	37
June	699
July	712
August	834
September	677
October	391
November	510
December	944
Total ...						5,420

FISH, RABBITS, GAME, AND POULTRY, EXAMINED, REJECTED,
AND DESTROYED.

1910	Fish.						Pots of Shrimps	Rabbits.	Pigs feet.	Turkeys.
	Boxes.	Barrels	Bags	Kits	Lbs	Quarts				
Totals	102 $\frac{1}{4}$	1	12	...	...	...	67	422	1 barrel	45

NUMBER OF ANIMALS INSPECTED IN PRIVATE
SLAUGHTER-HOUSES.

Beasts.	Sheep.	Calves.	Pigs
1,874	7,190	468	188

WEIGHT OF REJECTED CARCASSES, ORGANS, MEAT, &c.,
FORWARDED FOR DESTRUCTION DURING THE YEAR
FROM THE ABATTOIR TO AUDLEY DESTRUCTOR.

1910.		Tons.		Cwts.		Qrs.
January	...	2	...	5	...	2
February	...	3	...	7	...	0
March	...	1	...	11	...	2
April	...	2	...	10	...	2
May	...	2	...	9	...	2
June	...	3	...	3	...	0
July	...	2	...	0	...	3
August	...	3	...	1	...	0
September	...	3	...	1	...	2
October	...	3	...	7	...	1
November	...	3	...	19	...	0
December	...	4	...	2	...	2
Totals	...	34		19		0

The above figures do not include the weight of Fish destroyed.

NUMBER OF VISITS.

To Butcher's Shops, etc.	2,694
To Private Slaughter-houses	1,493
To the Meat Market.....	328
To the Fish Market	452
To the Public Abattoir	485
To the Railway Station.....	184

Total..... 5,636 visits.

CARCASSES OF PORK BROUGHT DIRECT TO THE SHOPS.

In 1908 I reported to you that there was a large number of farmers bringing country-fed pork to Blackburn and sold direct to the butchers without being examined. I beg to state that practically all the butchers in the town now report all these instances at the Abattoir, and ask for inspection.

FARM AND DAIRY CATTLE INSPECTION

During the year I visited 155 farms, inspected 255 cowsheds, and examined the mammary glands of 2,767 cows.

I certified that two of the cows examined were suffering from Tuberculosis of their mammary glands, and the sale of their milk was immediately prohibited by you.

Tuberulous Cows Exhibiting Mammary Tuberculosis.

No. of Cow.	Date of Certificate, 1910.	Situation of Farm in Blackburn.	Extent of Tuberculous Process in Cow's Udder.	Remarks.
1	June 28	Ramsgreave	Right anterior quarter tuberculous	Sold to Butcher
2	Nov. 1	Lt. Harwood	Right posterior quarter tuberculous	Sold Destination unknown

It will be seen that one of these cows was removed from Blackburn and her destination unknown.

I found six cows suffering from Mammitis, and two cows suffering from diseased teats. The milk of these eight cows was not sold for human food.

Of the 227 tuberculous cows slaughtered at the Abattoir, ten only were brought from farms in the Borough, and eight from the Blackburn Cattle Market. The others were brought from Edinburgh, Annan, Salford, Preston, Clitheroe, Liverpool, and farms in the surrounding district.

I found seven cows showing clinical symptoms of Tuberculosis, and requested their removal from the cowsheds and advised their immediate slaughter, which was carried out.

TUBERCULOUS UDDERS.

Your letters of May 7th and October 3rd, to farmers in Blackburn, requiring them to notify to you every case, or suspected case, of Udder Tuberculosis in their dairy cows, has not been complied with in a satisfactory manner. Only one farmer reported an abnormal udder, and on examination I found it was not tuberculous.

Neither of the two cases of Udder Tuberculosis discovered in dairy cows, in Blackburn cowsheds, was notified to you by the owners, but were detected at farms by me during visits of inspection. Both of these cases should have been notified to you by the owners, as required by the Corporation Act, 1901, and the sale of their milk as human food would have been prevented much earlier.

I have visited the Union Workhouse cowsheds four times during the year, and on each occasion I have found the cows in excellent condition and very clean. In the cowshed a wash-basin has been placed, and towel-rack, and each milker washes his hands before he commences milking and after he has milked each cow. The cleanliness of the cowsheds is also well attended to.

BACTERIOLOGICAL EXAMINATION OF MILK FOR TUBERCLE
BACILLI.

During the year, 36 Samples of Milk were collected and forwarded to Professor Delépine for bacteriological examination for tubercle bacilli. The 36 samples examined for tubercle bacilli were obtained as follows:—9 mixed samples obtained direct from cows in the cowsheds; and the remaining 27 were collected by other Inspectors from carts in the street.

The following tables show the results obtained :—

MIXED SAMPLES OF MILK SUBMITTED FOR BACTERIOLOGICAL
EXAMINATION.

Number of Sample.	Date of Collection	Number of Can.	Number of Cows.	Result of Examination.
1	April 6	17	45	Negative. Found not to cause tuberculosis. Do Do. Do. Do. Do. Do. Do. Do.
2	„ 6	53	23	
3	May 26	11	11	
4	June 13	B 40	13	
5	Aug 16	B 36	5	
6	Oct. 21	13	21	
7	Dec. 16	B 36	22	
8	„ 21	B 39	38	
9	„ 21	B 37	32	

Samples 2 and 6 were from cows supplying the Fever Hospital and were found to be free from tubercle bacilli, as were all the others.

TABLE LXXXVII.

SAMPLES OF MIXED MILK COLLECTED FROM MILK CARTS
IN THE STREETS OF BLACKBURN FROM FARMERS BRINGING
MILK INTO THE BOROUGH.

Number of Sample.	Date of Collection	Number of Can.	Number of Cows.	Result of Examination.	
1	July 28	51	20	Negative. Found <i>not</i> to cause Tuberculosis.	
2	" 28	49	12		
3	Aug. 3	B 37	6	Do.	do.
4	" 3	B 39	15	Do.	do.
5	" 23	5	23	Do.	do.
6	" 23	29	6	Do.	do.
7	" 24	B 36	10	Do.	do.
8	Sept. 8	46	10	Do.	do.
9	" 8	51	25	Do.	do.
10	" 13	47	18	Do.	do.
11	" 13	27	20	Do.	do.
12	" 15	36	12	Do.	do.
13	" 30	54	15	Do.	do.
14	" 30	55	24	Do.	do.
15	" 30	10	14	Do.	do.
16	" 30	40	15	Do.	do.
17	Oct. 17	21	26	Do.	do.
18	" 17	B 39	30	Do.	do.
19	" 17	B 36	28	Do.	do.
20	" 25	18	10	Do.	do.
21	" 25	43	18	Do.	do.
22	Nov 8	B 39	16	Do.	do.
23	" 8	B 37	16	Do.	do.
24	" 8	B 36	15	Do.	do.
25	" 22	B 36	14	Do.	do.
26	" 22	B 39	11	Do.	do.
27	" 22	B 37	14	Do.	do.

The above table shows that 27 samples were collected,
representing the milk of 443 cows.

All the samples were negative.

COWSHED INSPECTION.

The usual circular-letters sent by you, on May 7th and October 3rd, to all cowkeepers in the Borough, requiring the limewashing of cowsheds, have again been responded to in a satisfactory manner.

During the year I inspected 255 cowsheds, and found that the majority of them were kept in a cleanly condition.

REPORT UNDER DISEASES OF ANIMALS ACTS AND ORDERS
FOR THE YEAR 1910.

I am glad to state that, with the exception of Anthrax, all the scheduled diseases have been absent from the Borough during 1910.

ANTHRAX ORDER OF 1910.

The Anthrax Order of 1899 has been revoked and is replaced by the Anthrax Order of 1910, which comes into force on the 1st January, 1911.

The provisions of the Order are similar to those of the Order revoked, but with the following differences:—

The new Order provides that in reported cases of the disease, if the Veterinary Surgeon employed by the local authority is not satisfied by his examination on the spot that the case is not one of Anthrax, the carcase shall forthwith be destroyed by fire, or, if this is not feasible, buried with the usual precautions, and the place where the carcase has lain or where its blood has escaped, should be disinfected at once by the local authority in precisely the same manner as if a positive diagnosis of Anthrax had already been arrived at. Animals known to have been in contact with the dead animal are also treated temporarily as having been exposed to the risk of infection of Anthrax, and kept under detention.

If the Veterinary Surgeon employed by the local authority is satisfied from his examination that Anthrax does not exist, the fact is to be communicated to the Board and the occupier, and the notice of restriction served on him is to be withdrawn by the local authority.

Although where the Veterinary Surgeon is not so satisfied, the carcase is to be destroyed, and the premises are to be treated for the purposes of preliminary disinfection as if the disease were present in that carcase. It is not until the diagnosis has been confirmed by the Veterinary Officer of the Board that the full provisions of the Order as regards the creation of an Anthrax-infected place are brought into force.

The Veterinary Surgeon, acting on behalf of the local authority, in dealing with a case of suspected Anthrax, is required to take and examine such samples of the blood or other fluid of the animal or carcase, or of the tissue of the carcase, as may be necessary for further investigation, and it is contemplated that he should himself arrive at an opinion as to whether or not disease exists, and communicate it to the Board in the Report he is required to make to them, but he will not embody the opinion in a certificate issued under the Acts.

The Order also provides that the owner of a suspected animal or carcase is at once to be served with a notice calling his attention to the precautions which the Order (Article 3) requires him to make, and that a copy of the notice is to be forwarded to the Board.

In view of the specially dangerous nature of the disease, the Board consider that the responsibility of securing the most thorough disinfection practicable should remain with the local authority, and the work should, as hitherto, be carried out by the officers of the local authority; but to meet certain cases the Board have empowered the local authority to require the occupier or the owner himself to carry out the disinfection, at the expense of the local authority, but the latter may recover from

the owner of an animal or carcase any portion of the cost of disinfection where that has been increased by his wilful act or neglect.

Having regard to the characteristics of the disease and the extreme importance of the careful use of all possible precautions against injury to human beings or to animals in suspected cases of Anthrax, it is to the public interest that any case of illness amongst animals which suggests the possibility of Anthrax being present should be placed, at the earliest possible moment, under the control of a Veterinary Surgeon employed by the local authority concerned, and it is only in cases where a Veterinary Surgeon, acting on behalf of an owner of a sick animal, has satisfied himself that neither the history of the case nor any external lesions in the carcase of a dead animal indicate the existence of Anthrax, that he would be justified in taking a sample of blood or other fluid or tissue from such a carcase for the purpose of microscopical examination.

During the year I made microscopical examinations of blood, etc., from the carcasses of 104 cattle, 57 sheep, 19 calves, and 24 pigs; total, 204 carcasses, and found Anthrax bacilli in two cases.

The two positive specimens of blood, etc., were prepared in duplicate, and at the request of the Chief Veterinary Officer of the Board of Agriculture, I forwarded a slide preparation of each case to him for microscopical examination.

The cases I notified were as follows:—

Case.	1910.	Kind of Animal or Carcase and where from.
1	May 19	A Cow died at a farm in Rishton and was brought to the knacker's yard in Blackburn.
2	Nov. 23	A Lamb found dead in a Railway Waggon at Blackburn.

PARTICULARS OF EACH CASE.

Case 1.—A cow was brought from Lower Hen Moss Farm, New Inns, Rishton, to Messrs. Davies's knackers'-yard, Whitebirk, Blackburn, at 11 a.m., on May 17th, 1910. It was said to have died whilst being given a drink at 6-30 a.m. the same day. The carcase was partially opened on the evening of May 17th, and reported to me on May 19th. I visited the premises immediately and examined the blood, and found Anthrax bacilli in large numbers. On June 1st the owner of the cow was prosecuted at the County Police Station. The case was dismissed, as the Magistrates were of opinion that the case was one of ignorance and not neglect.

Case 2.—A lamb was conveyed by rail from Preston to Blackburn, along with 24 sheep and lambs, in a L. and Y. railway waggon (No. 13,646), on November 23rd. This lamb was found dead in the waggon on arrival at Blackburn. I examined the blood, and found Anthrax bacilli in large numbers.

It will be noticed that blood was illegally shed, carcase moved, carelessly cut and handled in one of the cases dealt with, thereby rendering disinfection extremely difficult.

After discovery of the cases, the carcasses and infected premises were dealt with in accordance with the provisions of the Anthrax Order of 1899. The carcasses, skins, litter, etc., were destroyed by exposure to a high temperature in the cell specially prepared at Audley Destructor for the destruction of diseased carcasses, under the Diseases of Animals Acts.

The infected premises, vehicles, utensils, etc., were carefully disinfected, and the Borough, County, and other Police were promptly informed of the cases.

ANTHRAX NOTICES, ETC.

During the month of October, copies of Leaflet 28 were distributed by the police to farmers and stock owners in the Borough.

A copy of the Anthrax Notice to Butchers, Knackers, etc., is posted in every slaughter-house in Blackburn.

The Board of Agriculture Returns for 1910 show that during the year 1,496 outbreaks of Anthrax occurred in Great Britain, in which 1,776 animals were affected.

The figures for the three preceding years are :—

Years.	Outbreaks.	Animals Affected.
1909	1,317	1,698
1908	1,108	1,426
1907	1,089	1,466

The following figures show the cases of Anthrax discovered and reported in Blackburn during the years :—

Years.	1902	1903	1904	1905	1906	1907	1908	1909	1910
Blackburn Cases	1	5	1	1	2	3	0	0	0
Outside Cases Introduced	3	3	8	4	3	9	0	5	2
Totals	4	8	9	5	5	12	0	5	2

GLANDERS AND FARCY ORDER OF 1907.

No cases of Glanders or Farcy were notified in Blackburn during 1910.

SHEEP SCAB ORDER OF 1910.

The provisions of this Order are similar to the Sheep Scab Order of 1905, with the exception of Articles 5, 9, and 20, which are amended.

The approximate number of fat sheep brought into Blackburn during the year was 42,465, and the number of store sheep exhibited for sale in the Cattle Market was 544.

No case of Sheep Scab was reported or detected among them.

SHEEP DIPPING (SCOTLAND AND NORTH OF ENGLAND) ORDER OF 1907.

During the first prescribed dipping period, which terminated on August 31st. I received three notices of time and place of the intended dipping of sheep from sheep owners in the Borough, and 66 sheep were dipped as stated in the following table. These sheep were dipped in the presence of a witness, who signed the return.

RETURN OF DIPPING (1ST PERIOD, 1910).

Number and description of sheep dipped.	Place of Dipping.	Date of Dipping.	Description of Dip used.
5 Ewes 8 Lambs	Beardwood Hall	June 26th	McDougal's Sheep Dip
38 Half-bred Lambs	Cross Hill Farm	August 24th	McDougal's Sheep Dip
15 Ewes	Honey Hole Farm	August 26th	McDougal's Sheep Dip

During the second prescribed dipping period, three notices were received of the time and place of the intended dipping of sheep, and 105 were dipped, as stated in the following table. These sheep were dipped in the presence of a witness, who signed the return.

RETURN OF DIPPING (2ND PERIOD, 1910).

Number and description of Sheep dipped.	Place of Dipping.	Date of Dipping.	Description of Dip used.
25 Half-bred Ewes 2 „ Lambs 1 Southdown Tup	Higher Cunliffe Farm	September 26th	McDougal's Sheep Dip
59 Wethers	Revidge Fold Farm	October 12th	McDougal's Sheep Dip
18 Irish Wethers	Revidge Fold Farm	November 2nd	McDougal's Sheep Dip

The dipping in each case was carried out under the supervision of the Borough Police.

The total number of sheep dipped in Blackburn during the year was 171.

I attended and examined, at the Cattle Market, the Declarations required to accompany sheep exposed for sale.

SHEEP (MOVEMENT FROM IRELAND) ORDER OF 1910.

Application of the Sheep Dipping (Scotland and North of England) Order of 1907 to Irish Sheep.

1. For the purposes of Article 15 of the Sheep Dipping (Scotland and North of England) Order of 1907, which restricts the exposure of sheep for sale in any market, fair, or sale-yard in the dipping area to which this Order applies, and the movement of sheep out of the dipping area, after the first day of September until the twelfth day of November (including that day), and of the declaration (Form G) therein referred to, the thirty-

first day of August shall be considered to be the date of the expiration of the prescribed dipping period in force in Ireland.

2. This Order came into operation on the first day of September, 1910.

SWINE ERYSIPELAS.

This is a contagious although not a scheduled disease. One case occurred at the Abattoir. The premises were disinfected and no further cases have been brought to my notice.

PARASITIC MANGE.

No cases of Parasitic Mange in horses were notified in Blackburn during 1910.

TABLE LXXXVIII.

Return showing origin of Store and Breeding Pigs moved under licence into the District of the Local Authority of Blackburn.

COUNTY.	Stores 1907	Breeding 1907	Total 1907	Stores 1908	Breeding 1908	Total 1908	Stores 1909	Breeding 1909	Total 1909	Totals 1907-09	Average
Shropshire	134	...	134	...	...	...	...	...	...	134	44'2
Bedfordshire	22	...	22	7	...	7	...	...	...	29	9'2
Yorkshire.....	1	...	1	...	...	...	...	...	...	1	0'3
Anglesey	78	...	78	44	...	44	52	...	52	174	58'0
Norfolk.....	...	...	...	6	8	14	...	...	...	14	4'2
Cheshire .....	...	...	...	...	1	1	...	...	...	1	0'3
Essex .....	...	...	...	...	...	...	40	...	40	40	13'3
Lancashire .....	...	...	...	...	...	...	5	...	5	5	1'2
Huntingdonshire .....	...	...	...	...	...	...	20	...	20	20	6'2

ANIMALS (NOTIFICATION OF DISEASE) ORDER OF 1910.

1. The diseases to which this Order applies are :—

Cattle Plague,
 Contagious Pleuro-pneumonia of Cattle,
 Sheep-pox,
 Foot and Mouth Disease,
 Sheep Scab,
 Swine Fever,
 Anthrax,
 Epizootic Lymphangitis,
 Rabies,
 Glanders and Farcy.

2. (1) A veterinary surgeon or veterinary practitioner who in his private practice is employed to examine any head of cattle, or any sheep, goat, swine, horse, ass, or mule, or the carcass of any such animal, and is of opinion that the animal is diseased, or was diseased when it died or was slaughtered, or suspects the existence of disease therein, shall with all practicable speed give notice of the existence or suspected existence of disease to an Inspector of the local authority, and also, except where the disease is Anthrax, Sheep Scab, Glanders or Farcy, to a constable of the police force for the police area in which the animal or carcass is, who shall transmit the information to the Board of Agriculture and Fisheries, by telegram.

(2) An Inspector of the local authority, on receipt of notice under this Order, shall forthwith report the existence or suspected existence of disease to the local authority, and if the disease is Anthrax, Glanders, or Farcy, also to the Medical Officer of Health of the sanitary district in which the animal or carcass is.

3. When a local authority receives, under the Order or otherwise, information of the existence or suspected existence of disease in relation to a carcass of an animal that has died or

been slaughtered in the district of another local authority, the local authority shall forthwith transmit the information to the other local authority.

4 (1) A veterinary surgeon or veterinary practitioner who, under and in accordance with this Order, gives notice of the existence or suspected existence of disease, to an Inspector of the local authority, shall be entitled to receive from the local authority a fee of two shillings and sixpence for each notification.

(2) When two or more animals or carcasses are examined by a veterinary surgeon on the same premises and at the same time, and are found to be diseased, one fee only shall be paid to him.

5. This Order came into operation on the 1st day of April, 1910.

CATTLE MARKET.

The Cattle Market has been thoroughly cleansed and disinfected in accordance with the provisions of the Market and Sales Orders of 1903 and 1904, after each of the two Markets held weekly.

Approximate number of animals exhibited for sale in the Cattle and Pig Markets:—

Year.	Cattle.	Horses.	Sheep.	Pigs.
1910	7,697	151	544	*18

Compared with last year this return shows an increase of 147 Cattle and 1 Horse, and a decrease of 1,307 Sheep and 21 Pigs.

*These were exhibited at the Christmas Fat Show.

The figures for the five preceding years are:—

Years.	Cattle.	Horses.	Sheep.	Pigs.
1909 : ...	7,550	150	1,851	39
1908 : ...	8,010	171	2,227	40
1907 : ...	8,931	104	1,889	31
1906 : ...	9,608	106	2,002	0
1905 : ...	10,926	115	2,513	6

VISITS AND INSPECTIONS.

To the Cattle and Pig Markets	185
To the Railway Cattle Siding	69
In connection with Sheep-Dipping Order	3
In connection with Anthrax and Suspected Anthrax Cases	45
To the new pens at the Market for the reception of Irish Pigs	35
Total	<hr/> 337

I am, Sir,

Your obedient servant,

JAMES ROGERSON HAYHURST,

M.R.C.V.S.,

Veterinary & Chief Meat Inspector.

REPORT OF INSPECTOR OF NUISANCES.

Public Health Office,

53, Northgate,

Blackburn.

TO THE MEDICAL OFFICER OF HEALTH.

Dear Sir,

I beg to submit to you the following Report of the Sanitary Work carried out during the year 1910.

INHABITED VANS.

These dwellings have been kept under strict supervision during the year. They have been placed upon the open spaces in Newton-street and Canterbury-street, and also, during Easter Week, on the Market Place and in the neighbouring public yards. Frequent visits have been paid, numbering fifty-seven, during their stay, for the purpose of ascertaining if any infectious disease or nuisance existed. No infectious disease has occurred in the vans. Their cleanliness and the conditions surrounding them have been well maintained. The refuse from them has been frequently removed. Water supply and temporary closet accommodation have been provided.

CANAL BOATS ACTS, 1887 & 1884.

In compliance with the above Acts and Regulations, 205 canal-boat inspections have been made during the year, with a view of ascertaining if the provisions were being complied with.

Thirteen infringements of the Acts have come under my notice, namely :—

One boat unregistered.

Two masters without certificates.

Two boats overcrowded.

Three boats dirty from want of cleaning.

Five boats in a leaky condition.

With respect to the above thirteen infringements, seven notices have been served notifying the owners of the infringements of the various clauses of the Local Government Board Regulations, and the Masters of the other six have been cautioned. The seven statutory notices have all been complied with, but only one of the masters who were cautioned has been met with since.

No infectious disease has been met with, and no detention of boats for cleansing or disinfecting purposes has been necessary.

There are 104 boats on the register.

Two new boats have been registered, and two boats have been re-registered through change of owners or through structural alterations.

The occupants of the 205 boats were : Males, 399 ; females, 67 ; children, 57. Seven of the children were at school-age and were on a holiday trip.

Table LXXXIX.—INSPECTION OF FOOD AND DRUGS.

Articles Analysed.	Number Analysed.	Result of Analysis.			Extent of Adulteration.	Result of Proceedings.
		Genuine	Adulterated	Doubtful		
Milk	231	195	36		5% deficient in cream.	Warned by letter.
					3% ,,	Do.
					$2\frac{2}{3}\%$,,	Do.
					Slightly watered	Do.
					4% added water	Fined £2 & costs
					4% ,,	Fined £1 & costs
					25% deficient in cream	Fined £2 & costs
					$12\frac{1}{2}\%$,,	Informal ; formal sample taken & fined £2 & costs
					$39\frac{1}{3}\%$,,	Informal ; formal sample taken & found genuine.
					18% ,,	Fined £2 & costs
					$8\frac{1}{3}\%$,,	Informal
					Slightly watered	Warned by letter
					9% deficient in cream	Informal for comparison
					14% ,,	Fined £2 & costs
					36% ,,	Informal ; formal sample taken & fined £5 & costs
					Slightly watered	Informal
					$7\frac{1}{2}\%$ deficient in cream	Informal ; formal sample taken & found genuine
					$12\frac{1}{2}\%$,,	Do.
					1 grain of Boracic acid per pint	Warned by letter
					9% deficient in cream	Fined £1 & costs
					25% ,,	Fined £1 & costs
					48% ,,	Fined £5 & costs
Carried forward	231	195	36			

TABLE LXXXIX.—INSPECTION OF FOOD, &c.—Continued

Articles Analysed.	Number Analysed.	Result of Analysis.			Extent of Adulteration.	Result of Proceedings.
		Genuine.	Adulterated.	Doubtful.		
Brought forward	231	195	36			
Milk.....					5% deficient in cream and $2\frac{1}{4}$ grains of Bo- racic acid per pint	Fined £5 & costs
					12% deficient in cream	Fined £2 & costs
					20% ,,	Informal ; formal sample taken but found can marked Skim'd Milk
					25% ,,	Do.
					5% ,,	Warned by letter.
					4% added water	Informal ; formal sample taken & fined £2 & costs
					58% deficient in cream	Informal ; formal sample taken but weak. War- ned by letter.
					5% ,,	Warned by letter
					9% added water	Fined £2 & costs
					15% deficient in cream	Informal ; formal sample taken & found genuine.
					5% ,,	Informal ; formal sample taken & found genuine.
					Slightly watered	Re-sampl'd in 1911
					40% deficient in cream	Informal ; formal sample taken & found genuine
					6% ,,	Informal ; formal sample to be taken in 1911
Carried forward	231	195	36			

Table LXXXIX.—INSPECTION OF FOOD, &c.—Continued.

Articles Analysed.	Number Analysed	Result of Analysis.			Extent of Adulteration.	Result of Proceedings.
		Genuine	Adulterated	Doubtful		
Brought forward	231	195	36		Consisted of Mar- garine	Informal.
Butter	46	45	1			
Coffee	13	13				
Lard	8	8				
Flour	7	7				
Pepper.....	10	10				
Baking Powder	10	10				
Arrowroot..	7	7				
Beer.....	8	8				
Liquorice Powder	4	4				
Ginger ..	3	3				
Preserved Peas	4		4			
					1.4 grains Crysta- lised Sulphate of Copper per lb.	
					2.6 gr. „	
					1 gr. „	
					1.6 gr. „	
Dried Peas	1	1				
Cheese ...	2	2				
Jam	3	3				
Cream of Tartar	1	1				
Cakeen ...	1	1				
Compound	1	1				
Total .	360	319	41			

COMMON LODGING-HOUSES.

In accordance with the Blackburn Improvement Act, 1901, the annual certificates of registration of the premises and the keepers have been renewed. One new house has been registered, namely, 39, Tontine-street, which has accommodation for 27 males. The substitution of fresh-water pedestal closets for pails at the premises mentioned in my last Report, has greatly improved their condition, and the re-paving of the surfaces of the yards with good squared flags has enabled the keepers at all times to keep them in a clean, sanitary state. The number on the register is 23, accommodating 1,011 adults and 20 children. The accommodation in the town for couples and single women is still short, and these people have to resort to furnished rooms. The Lodging-houses have been visited frequently and regularly, 996 visits having been paid during the year. These houses have been kept clean and in good order. The following is a list of common lodging-houses in the Borough.

<i>Situation of Premises.</i>	<i>No. of Rooms.</i>	<i>Accommodation.</i>
19 Larkhill Street	38	314 adults
66 Moor Street	20	93 „ and 6 children
6 and 8 Mount Pleasant.....	8	65 „
3 Syke Street	8	66 „
7 and 9 Daisy Street	2	37 „
56 Chapel Street	6	36 „
104 Mary Ann Street	5	37 „ „ 1 child
74 Chapel Street	5	36 „
26 and 28 Penny Street	10	33 „ „ 9 children
54 Syke Street	6	28 „ „ 1 child
33 Joiners Row.....	4	25 „
59 Water Street	5	25 „ „ 2 children
30 and 32 Leyland Street.....	4	20 „
13 Grimshaw Park	3	18 „
8 Cowell Street.....	2	16 „
33 Larkhill Street	3	16 „ „ 1 child
26 Bradshaw Street.....	3	18 „
83 Moor Street	5	21 „
47 Nab Lane	2	8 „
49 „ „	2	12 „
1 Shorrock Street	5	18 „
39 Tontine Street	4	29 „
86 to 92 Chapel Street	7	40 „

HOUSES LET IN LODGINGS.

These houses, in which certain rooms are let off to members of more than one family, consist of some of the worst property in the town, being old and dilapidated. The fact that permission is not compulsory for opening such property as sub-let houses leads to many houses being opened without any notice being given or any thought of the necessary requirements. Houses may, therefore, be in use for a considerable period before they are discovered, and have thus become, as it were, recognised houses, even though the conditions are bad. If it was an offence to open this class of house without permission, as in the case of common lodging-houses, I think we should have a much better standard of house. As it is, there is no alternative but to register these houses so that they can be brought under the bye-laws of the Borough in order to prevent overcrowding and to ensure attention to cleanliness and sanitary requirements. As a rule the lavatory accommodation is poor, since there is only one common slopstone for the use of the occupants of all the rooms. The closet accommodation, in many, is insufficient and unsuitable, one pail having to suffice for three or four families, and it is often filled to overflowing, days before the time for removal. There is no proper place for the storing of food and fuel, particularly in the rooms on the first floor, the food being exposed on the table or chair and the coal stored in a corner of the room on the floor. The fire-places are small bedroom-grates, and are much too small for living-rooms, and in many places they consist of delapidated ranges, and cause the rooms to be filled with smoke. The furniture is often scanty, and broken. The stair-cases and passages to the rooms are often dark and dangerous. The utensils are commonly foul buckets, and the material for cleansing purposes is very poor. There are 54 of these houses on the register and 11 others are ready for posting, making a total of 65 and providing accommodation for about 500 adults and 80 children. They have been regularly visited during the year.

COMPLAINTS FROM THE PUBLIC.

One hundred and ninety-seven complaints from the public have been received during the year, against 193 in 1909, and 373 visits have been made for the purpose of ascertaining the cause of such. In cases where there has been any suspicion of bad smells caused by defective drainage, a smoke-test has been applied and a full report on their condition has been given. The complaints have been promptly investigated, and the necessary action taken for their abatement.

SMOKE OBSERVATION OF FACTORIES.

Two hundred and forty-two observations of one hour's duration have been made of the various chimneys in the town. In 23 instances the limit was exceeded, and 22 notices were served to abate the excess of smoke. Twenty-one have kept within the limit, and two have since exceeded it, for which offence one was summoned and fined 40s. and costs, and the other, on promising to at once provide mechanical stokers, was not proceeded against.

At four mills. stokers have been fixed, and at two other mills improvements to the furnaces have been carried out.

The following is a list of the observations taken, with their result and action taken.

TABLE XC.—SMOKE OBSERVATIONS.

Name of Mill.	Result of Observation			No. of Boilers.	If Stokers.	Action taken.
	B.	F.	N.			
Albert, Aqueduct Road	0	37	23	1	Yes	
Do.	0	9	51	..	..
Albert, Copy Nook.....	2	24	34	2	No	
Do.	2 $\frac{1}{2}$	25 $\frac{1}{2}$	32	...	...
Do.	2	10	48	...	...
Albert, Hall Street.....	0	17	43	2	No	
Do.	4	28	28	...	...
Albion	0	22	38	3	Yes	
Do.	4	33	23	...	...
Alexandra	3 $\frac{1}{2}$	21 $\frac{1}{2}$	35	2	No	
Alma	2 $\frac{1}{2}$	26 $\frac{1}{2}$	31	1	No	
Do.	0	14	46	..	..
Appleby's Corn Mill ...	0	38	22	2	No	
Do.	0	17	43	...	...
Armenia	1	8	51	1	No	
Do.	1	6	53	...	...
Do.	0	4	56	...	...
Do.	0	12	48	...	...
Do.	1	6	53	...	...
Atlantic	0	5	55	1	No	
Do.	0	25	35	...	...
Atlas Foundry	2	11	47	1	No	
Audley.....	4	8	48	1	No	
Audley Bridge	3 $\frac{1}{2}$	20 $\frac{1}{2}$	36	1	No	
Do.	3 $\frac{1}{2}$	22 $\frac{1}{2}$	34	...	..
Do.	3	5	52	...	...
Do.	6	8	46	...	...	Legal Notice.
Audley Hall No. 2.....	12	11	37	2	Yes	Legal Notice.
Do.	2	28	30	...	...
Audley Hall No. 1.....	4	26	30	2	Yes	
Audley Range	4	27	29	1	No	
Do.	3	7	50	...	...
Bank Top Foundry and Pump Street Mill ...	0	26	34	2	No	
Do.	10	9	41	...	...	Legal Notice.
Do.	1	16	43	...	...
Bank Top	1	38	21	1	Yes	
Bankfield.....	2	46	12	3	Yes	
Bastfield ...	3	7	50	2	Yes	
Do.	3	12	45	...	...
Bastwell Dye Works ...	2	25	33	1	No	

SMOKE OBSERVATIONS—continued.

Name of Mill.	Result of Observation			No. of Boilers	If Stokers.	Action taken.
	B.	F.	N.			
Bold Street Works ...	1½	19½	39	1	No	Legal Notice.
Bolt W'ks, Sharples St.	0	7	53	1	No	
Do. ...	8	9	43	...	...
Boundary	1	8	51	1	Yes	
Bright Street	2	17	41	1	No	
Do	4	8	48	...	...
Britannia.....	0	5	55	1	Yes	
Brookhouse (No. 1) ...	0	32	28	6	No	
Do. ...	3	12	45	...	...
Brookhouse (No. 2) ...	0	34	26	6	No	
Brunswick	0	7	53	1	Yes	
Burmah	2½	21½	36	1	No	
Byrom St. Timber Yard	4	3	53	1	No	
Canal Foundry (No. 1)	0	34	26	1	No	
Do. ...	3	8	49	..	...
Canal Foundry (No. 2)	0	32	28	1	No	
Do. ...	4	8	48	...	...
Canterbury St. (D.W.)	1	9	50	2	Yes	
Canterbury Street ...	2	26	32	1	No	
Canton	3	23	34	2	No	
Cardwell.....	0	46	14	3	Yes	
Do.	0	26	34	...	...
Do.	0	32	28	...	...
Cecil and Daisy Street	3½	33½	23	2	No	
Do.	2	8	50	...	...
Do.	1	7	52	...	...
Cicely Bridge... ..	6	38	16	3	No	
Do.	4	14	42	...	...
Chadwick Street ...	0	32	28	1	Yes	
Do.	0	7	53	...	...
Do.	0	5	55	Legal Notice.
Cobden	3½	47	9½	2	No	
Columbia	0	5	55	1	Yes	
Do.	1	7	52	...	...
Commercial	2	10	48	1	No	
Do.	4	12	44	...	...
Do.	10	2	48	...	...
Commercial, Geo. St. W.	1	32	27	1	No	
Crossfield	2	15	43	2	No	
Do.	3	27	30	...	...
Cumpstey St. & Mosley	2	20	38	2	Yes on 1 boiler.	
Do.	5	30	25	...	...

SMOKE OBSERVATIONS—continued.

Name of Mill.	Result of Observation			No of Boilers.	If Stokers	Action taken.
	B.	F.	N.			
Dewhurst Street	14½	25½	20	1	No	Legal Notice.
Do.	6½	30½	23	...	...
Duckworth Field	2	23	35	1	Yes	
Duxbury Street.....	0	38	22	5	Yes	
Eanam Brewery.....	1	30	29	3	Yes	
Do.	4	14	42	...	...
Do.	6	14	40	...	...
Do.	3	6	51	...	...
Eanam Bridge	3½	22½	34	1	No	
Fernhurst	0	16	44	1	No	
Do.	0	12	48	...	...
Fountain	0	9	51	1	No	
Do.	2	17	41	...	...
Furthergate	1½	28½	30	3	No	
Do.	0	17	43	...	...
Fisher Street	0	50	10	1	Yes	
Garden Street	0	35	25	2	Yes	
George Street West .	0	11	49	1	Yes	
Gorse Bridge.....	2	5	53	1	Yes	
Grange	2	30	28	1	Yes	
Greaves Street	3	42	15	1	Yes	
Greenbank Iron Works	3	25	32	1	No	
Do.	7½	14½	38	...	...	Legal Notice.
Do.	4	10	46	...	...
Greenlow	0	21	39	1	Yes	
Do.	3	17	40	...	...
Greenwood's Corn	1	5	54	2	Yes	
Do	0	14	46	...	...
Hardman's Chem. Wks	2½	22½	35	2	No	
Harley Street	3	6	51	1	Yes	
Harwood Street	2	19	39	1	No	
Higher Audley Street...	3	5	52	1	Yes	
Highfield.....	0	7	53	2	No	
Do.	4	8	48	...	...
Do.	5	10	45	...	...
Do.	4	6	50	...	...
Do.	10	5	25	...	...	Legal Notice.
Holehouse	1½	22½	36	1	No	
Do.	1½	21½	37	...	...
Hollin Bank (R.S.) ...	0	32	28	3	Yes	
Do.	0	30	30	...	...

SMOKE OBSERVATIONS—continued.

Name of Mill.	Result of Observation			No of Boilers.	If Stokers.	Action taken.
	B.	F.	N.			
Hollin Bank (R.S.) ...	2	11	47	Legal Notice
Do. ...	12	14	34	...	...
Hollin Bank Weaving	0	37	23	1	Yes	
Do. ...	0	35	25	...	...
Do. ...	0	13	47	...	...
Do. ...	0	9	51	Legal Notice
Imperial	14	36 $\frac{1}{2}$	9 $\frac{1}{2}$	4	No	
Do.	9 $\frac{1}{2}$	50 $\frac{1}{2}$	0	...	...
Do.	4	43	13	...	...
Do.	0 $\frac{1}{2}$	43 $\frac{1}{2}$	16	...	...
Do.	1	14	45	Legal Notice
India	3	21	36	2	No	
Do.	2	29	29	...	...
Infirmary	0	12	48	1	Yes	
Do.	3	6	51	...	...
Do.	2	10	48	Legal Notice
Johnston St. (W.) ...	1	37	22	1	No	
Do. ...	8	8	44	...	...
Do. ...	0	5	55	...	...
Jubilee	2 $\frac{1}{2}$	19 $\frac{1}{2}$	38	1	No	
Do.	3	8	49	Legal Notice
Kirks Shuttle Works ...	0	16	44	1	No	
Leemings Shuttle Wks.	0	26	34	1	No	
Limbrick	3 $\frac{1}{2}$	28 $\frac{1}{2}$	28	1	No	
Do.	0	8	52	...	...
Do.	1 $\frac{1}{2}$	6	52 $\frac{1}{2}$	Legal Notice Summoned and fined £2 & costs
Do.	3	6	51	...	...
Limbrick Saw	0	12	48	1	No	
Mill Hill ...	16	29	15	4	² YES ₂ NO	
Do.	14	27	19	...	...
Do.	7	18	35	Legal Notice
Moorgate	0	30	30	2	No	
Do.	0	29	31	...	...
Moorgate (H.W.)	2	32	26	1	No	
Moss Street ...	0	26	34	2	No	
Navigation	1 $\frac{1}{2}$	36 $\frac{1}{2}$	22	3	Yes	Legal Notice
Do.	1	23	36	...	...
Northern Daily (T.W.)	0	10	50	1	No	
Northgate Rope Works	0	10	50	1	No	
Do.	3	15	42	...	...
Do.	0	8	52	

SMOKE OBSERVATIONS—continued.

Name of Mill.	Result of Observation			No. of Boilers	If Stokers.	Action taken.
	B.	F.	N.			
Novas New Brewery...	3	9	48	1	Yes	
Novas Scotia.....	0	15	45	2	No	
Do.	2	8	50	..	..
Oozebooth	$\frac{1}{2}$	19 $\frac{1}{2}$	40	1	No	
Do.	4	11	45	...	..
Ordinance	0	21	39	3	Yes	
Do.	2	17	41	..	..
Paradise	0	21	39	3	Yes	
Park Bridge	1	14	45	1	Yes	
Do.	0	17	43	...	..
Parkside	14	5	41	1	No	Legal Notice.
Paterson Street.....	2	9	49	1	No	
Paterson St. Chem. W.	0	14	46	1	No	
Do.	1	8	51	...	..
Peel	0	31	29	1	Yes	
Do.....	1	14	45	...	..
Phoenix	0	41	19	1	No	
Plantation	8	6	46	2	No	Legal Notice.
Prospect	2 $\frac{1}{2}$	23 $\frac{1}{2}$	34	1	No	
Do.	0	21	39	...	..
Quarry St. and Eanam	0	33	27	3	No	
Do.	0	15	45	...	..
Do.	4	6	50	...	..
Reed & Heald Works,						
Randal Street.....	3	14	43	1	No	
Do.	4	3	53	...	..
Rockfield	0	18	42	1	Yes	
Do.	0	4	56	...	..
Royshaw	4	25	31	1	No	
Do.	0	11	49	...	..
Salford Brewery	0	17	43	2	No	
Salford New Brewery...	0	20	40	1	Yes	
Do.	1	7	52	..	..
Salisbury.....	$\frac{1}{2}$	39 $\frac{1}{2}$	20	1	Yes	
Do.	0	28	32	...	..
Simmons St. S. Laund'y	3	9	48	1	No	
Do.	17	8	35	...	..	Legal Notice.
Shackleton's Corn Mill	0	23	37	1	Yes	
Shakespeare ...	1	35	24	2	Yes	
Springfield	0	46	14	5	Yes	
Starkie St. Corn Mill	8	3	49	1	No	Legal Notice.
Do.	0	5	55	..	..

SMOKE OBSERVATIONS—continued.

Name of Mill.	Result of Observation.			No. of Boilers.	If Stokers.	Action taken.
	B.	F.	N.			
Turner Street	2½	36½	21	1	No	
Do.	4	8	48	...	...
Do.	14	5	41	...	...	Legal Notice.
Unity	1	12	47	1	No	
Do.	1	5	54	...	...
Victoria	0	18	42	1	Yes	
Do.	4	22	34	...	...
Walpole Street	1	7	52	1	No	
Do.	4	4	52	...	...
Ward Street	6	43	11	2	1 Yes 1 No	Legal Notice.
Do.	½	36½	23	...	...
Do.	3	7	50	...	...
Do.	15	3	42	...	...	Legal Notice.
Waterfall	1	37	22	5	Yes	
Waterloo	0	35	25	1	Yes	
Do.	0	11	49	...	...
Do.	7	9	44	...	...	Legal Notice.
Wellfield	1	18	41	1	No	
Wellington New ...	0	12	48	3	No	
Do.	1	17	42	...	...
Do.	4	8	48	...	...
Wellington Old	2	10	48	1	Yes	
Do.	4	13	43	...	...
Do.	3	5	52	...	...
Wensley Fold (New)...	0	23	37	1	Yes	
Do.	8	29	23	...	...	Legal Notice.
Do.	1	4½	54½	...	...
Do.	0	7	53	...	...
Wensley Fold (Old) ...	0	35	25	...	...
Do.	3	8	49	...	...
Do.	4	6	50	...	...
Wharf Street ...	7	13	40	1	No	Legal Notice.
Windmill Works, Dock Street	2½	21½	36	1	No	
Woodfield	0	27	33	1	Yes	
Do.	1	26	33	...	...
Do.	10	8	42	...	...	Legal Notice.
Wood Bros., Brick Wks	2	29	29	1	No	

DISINFECTION.

Seven hundred and sixty-six rooms were washed down with chloros, and 288 rooms fumigated with formalin gas at 869 houses, after cases of infectious diseases.

At six schools 32 rooms were fumigated and seven rooms were sprayed with chloros.

Two thousand one hundred and five visits to infected houses were made for the purpose of supplying disinfectants, and 277 typhoid pails were collected and their contents burnt at the destructor.

The following articles have been disinfected by steam :—

- 1,251 Beds.
- 1,384 Mattresses.
- 1,318 Bolsters.
- 2,092 Pillows.
- 2,224 Quilts.
- 2,215 Blankets.
- 1,246 Sheets.
- 1,495 Suits of Clothes.
- 781 Carpets.
- 341 Rugs.
- 1,211 Curtains.
- 5,803 Sundries.

The following articles have been removed to the Destructor and destroyed, by consent of the owners :—14 beds, 45 mattresses, 4 bolsters, 4 pillows, 1 blanket, 10 suits, 9 carpets, 2 rugs, 8 curtains, and 16 sundries.

106 Library and other books have been fumigated during the year.

TABLE XCI.

DESCRIPTION OF VISITS.

District—	1	2	3	4	D.I.	TOTAL
Visits to Common Lodging Houses	93	245	103	555	...	996
Houses let in Lodgings ...	619	378	360	945	...	2302
Common Yards, Back Roads and Passages ...	3304	1563	1420	3095	...	9382
Infected Houses	577	852	703	341	...	2473
Work in Progress	411	531	349	436	...	1727
Dwelling-houses inspected	357	862	1210	770	...	3199
Horse-Manure Middens	418	451	299	438	...	1606
Fish and Greengrocers Shops	487	14	53	125	...	679
Fish and Chip Shops ...	1084	126	124	179	...	1513
School Inspection	28	...	29	...	...	57
Nuisances Investigated...	30	40	78	35	...	183
Smoke Observations ...	72	62	63	69	...	266
Miscellaneous Visits.....	...	171	75	62	...	308
Inspections of Farms ...	18	10	9	18	...	55
Drains tested by Smoke	...	...	...	...	640	640
„ „ Water	2	15	2	...	604	623
Drains examined by exposing...	...	...	...	...	78	78
Drains traced for leakage	...	...	...	...	122	122

TABLE XCII.

DESCRIPTION OF NOTICES ISSUED AND NUISANCES
REMEDIED.

District—	1	2	3	4	D.I.	Total.
Preliminary Notices served	179	258	180	223	13	853
Legal	18	40	13	28	6	105
Letters from M.O.H....	3	66	28	14	201	312
Nuisances remedied from—						
Defective Drains	11	26	6	26	278	347
Choked ..	38	41	36	57	24	196
Defective Water Closets	23	19	14	46	45	147
" Pail ..	3	2	...	6	5	16
" Slop Water Closets	11	3	1	3	6	24
" Trapped Gullies.....	12	14	...	12	364	402
" Sink Waste Pipes	40	11	17	18	61	147
" W.C. Cisterns and Flushing Fittings	38	44	22	43	31	178
" Urinals	17	2	...	...	...	19
" Easing Troughs and Down Spouts.....	64	13	29	47	127	280
" Soil Pipes .....	...	...	...	...	27	27
" Gully Dishstones	9	17	17	6	371	420
Inspection Chambers Provided .....	...	...	...	...	81	81
Improper Drainage .....	...	7	1	...	278	286
Yards unflagged .....	...	2	2	2	...	6
Yards badly paved or flagged	34	9	17	7	248	315
Houses, Yards, Closets, etc. ....	...	12	19	22	...	53
Damp and defective house walls	20	22	59	32	...	133
Insufficient Ventilation of Rooms .....	...	...	...	2	...	2
Defective Manure Middens .....	...	3	2	...	...	5
Accumulations of Manure	418	434	299	435	...	1586
" Offensive Matter	5	10	6	2	...	23
Dwelling-houses whitewashed.....	39	25	77	215	...	356
Poultry and Erections in yards.....	3	2	3	5	...	13
Ash Tubs repaired or provided	74	22	27	50	...	173
Ash Pits and Pail Receptacles repaired .....	...	2	6	6	...	14
Street Gullies, Ash Pits, &c., reported to Cleansing Department	49	115	2	8	...	174

WORK VISITED AND ORDERED BY THE HEALTH SUB-COMMITTEE.

Conversion of Privies	18
Conversion of Pails	6
Houses ordered to be altered or closed	6
Houses closed	8
Demolition	3
Inspections of Cowsheds and Dairies	5

I am, Sir,

Yours obediently,

JAMES GRAHAM, Cert. R.S.I.,
Chief Sanitary Inspector.

SALE OF FOOD AND DRUGS ACTS.

The following circular-letter was received from the Local Government Board, during the year, respecting the Sale of Food and Drugs :—

Local Government Board,

Whitehall, S.W.,

19th December, 1910.

1.—*Analysts' Reports.*

Sir,

I am directed by the Local Government Board to call your attention to Section 19 of the Sale of Food and Drugs Act, 1875, and to remind you that a copy of the Reports made by the Public Analyst for the several quarters of the year 1910 should be forwarded to the Board in the course of the month of January, 1911, so far as a copy has not already been transmitted. An increasing number of local authorities have adopted the suggestion that a copy of each quarterly report should be sent to the Board as soon as possible after its submission to the local authority; and the Board would be glad if, in future, the plan were adopted in all cases.

In many instances, in recent years, the copy of the quarterly reports which are required by statute to be sent to the Local Government Board has been transmitted to the Board of Agriculture and Fisheries, but not to this Board, and, in consequence, delay and inconvenience have arisen. The Board would be glad if local authorities would see that, as required by the Act of 1875, a certified copy of each report is forwarded to them.

2.—*Informal or Test Samples.*

All samples collected without the formalities prescribed by the Sale of Food and Drugs Acts and analysed by the Public Analyst should be included in the quarterly reports and separately distinguished as such, whether they are genuine or not. If during 1910 any such samples have been examined by the Public Analyst, and have not been included in his quarterly reports, a statement regarding their nature and the result of their examination should be furnished.

The Board understand that, with a view to preliminary investigation, informal samples have been collected in some districts for examination, by rough sorting methods only, by the public analyst or by some other person. The Board would be obliged if they could be furnished with a short statement of the procedure adopted in such cases.

The Board also wish to receive observations by the Public Analyst, or by the Medical Officer of Health or other officer charged with the direction of sampling under the Acts, regarding the practice of examining informal samples, and the use made by the local authority of the information thus obtained.

3.—*Furnishing Information to Sanitary Authorities within the Jurisdiction of County Councils.*

In some instances sanitary authorities who have not the power to appoint Public Analysts, supplement the work done by the County Council under the Acts by instructing their officers to take additional samples.

It has been suggested to the Board by some of these sanitary authorities that it would tend to prevent overlapping, and would otherwise assist them if they could be supplied by the County Councils of their respective Counties with information as to the work done in their districts under the Sale of Food and Drugs Acts by officers of the County Council.

The Board concur in the suggestion, and they would be glad if the County Councils would give their officers the necessary instructions in the matter.

4.—*Samples Sent to County Analysts by Sanitary Authorities.*

It has come to the knowledge of the Board that samples submitted to County analysts by officers of sanitary authorities are sometimes excluded from the analysts' quarterly reports. The Board request that County Councils will instruct their analysts to enter all such samples in their quarterly reports in future, indicating from which sanitary authority the samples have been received.

5.—*Administrative Action in regard to Samples Reported Against.*

Much avoidable correspondence is occasioned by the incomplete information sometimes furnished with regard to action taken in respect of offences against the Acts. Frequently information is given only with regard to legal proceedings, and sometimes it is restricted to *successful* proceedings. The Board desire to receive information respecting the administrative action taken by local authorities in regard to each sample adversely reported on by the Public Analyst, showing what legal proceedings have been instituted, the result of such proceedings, the respective amounts of the fine inflicted and the costs paid, the fines and costs being given separately in each case. Where prosecution has not been considered advisable, the Board would be glad to know the circumstances which have determined the decision, and

the precise action which has been taken by the authority, stated as briefly as convenient. In all cases the information should be given in such a form as to ensure the identification of the particular sample to which the information relates.

Where proceedings in respect of offences committed in 1910 are pending at the time of sending in the reports, the Board would be glad to receive, as early as practicable, the necessary information as to the result of such proceedings.

6.—*Administrative Action in regard to offences other than Adulteration.*

Few authorities supply the Board with particulars of offences other than adulteration, *e.g.*, breaches of the Margarine Act, 1887, and the Butter and Margarine Act, 1907, "obstructing officers in the discharge of their duty," "refusing to sell," etc. The Board desire to be furnished, as regards such offences, with information as to administrative action similar to that asked for above with regard to adulterated samples.

7.—*Action under the Merchandise Marks Acts and under the Common Law.*

Where samples have been obtained without the observance of the prescribed formalities, prosecution of offenders cannot usually be undertaken under the Sale of Food and Drugs Acts. In such circumstances, some local authorities have successfully proceeded against offenders under the Merchandise Marks Acts or under the Common Law. If any such action has been taken with regard to either formally or informally taken samples, the Board would be glad to be informed of the circumstances and results.

8.—*Form of Analyst's Quarterly Report.*

The system of reporting under "groups" which was referred to in the circular issued on the 13th December, 1906, and also in later circulars has been carried out by an increasing number of analysts, and the Board trust that the system will be adopted generally.

9.—*Information as to Declarations, Mixtures, Etc.*

The Board have been informed that in some districts sampling officers transmit samples to the analyst for analysis without furnishing information as to the circumstances in which the samples are taken, with the result in some cases that the analyst is unable to grant a proper certificate in accordance with the facts. Reports have been received by the Board showing that articles sold as mixtures (*e.g.*, coffee and chicory) have been reported against merely because they were mixtures—the analyst not having been informed that the articles were sold as such. The Board are of opinion that analysts should be informed of any statement made by the vendor at the time of sale which bears on the quality of the article, and that his attention should be drawn to any such statements or declarations on labels, packages, tins, bottles, or wrapping-paper.

10.—*Annual or Special Reports.*

The Board would in future be glad to receive, at an early date after they are available, copies of any annual or special reports made by public analysts which deal with the general working and administration of the Sale of Food and Drugs Acts in their districts, or which contain the results of special investigations as to particular food materials carried out on behalf of the local authority. The Board would also be glad to receive a copy of any reports on like matters which may be made by other officers of the authority.

The Board specially wish to receive a copy of any report made with regard to lard, lard substitutes, and margarine, in accordance with the suggestion made in their memorandum of May last.

11.—*Composition of Milk Samples.*

The Board have observed that in some instances information has been given by the analyst showing the composition of each sample of milk analysed, or the average composition of such samples. This information is valuable, and where it is furnished in any separate statement the Board desire to receive a copy.

12.—*Remuneration of Analyst.*

Section 19 of the Act of 1875 requires the analyst to state in his quarterly report the sum paid in respect of each analysis. The required information may be given either at the beginning or at the end of each quarterly report, and it should include a note of the sum charged in respect of any analysis made by the analyst in his public capacity for private individuals or bodies.

13.—*Copies of Circular for Officers of Local Authorities.*

Three additional copies of this circular are enclosed for transmission respectively to the Public Analyst and to the Medical Officer of Health, and to any other officer who may be charged with the direction of sampling under the Acts.

I am, Sir,

Your obedient Servant,

F. J. WILLIS,

Assistant Secretary.

The Clerk to the County Council

or

The Town Clerk.

During 1910, 360 samples were purchased in Blackburn in the administration of the Food and Drugs Acts, of which 231 were samples of milk.

Of the total number of samples taken, 319 were found on analysis to be genuine.

As in previous years, many unofficial samples were purchased, and if any of these were found to be adulterated, other samples were then taken officially from the same vendors.

Warning letters were sent when necessary.

A special Inspector (Inspector Williams) now devotes a considerable portion of his time to this work.

REPORT UPON AN OUTBREAK SUSPECTED TO BE DUE TO POISONED FOOD.

In consequence of a report which I received, I visited the Imperial Mill, Blackburn, on Friday morning, March 11th, 1910.

The Manager at that Mill then informed me that on the previous day there had been several cases of illness, chiefly amongst the girls, which was thought to be due to some cakes which had been eaten. He had given an emetic to each of the affected employees.

I then interviewed the employees who had been affected, and who were present at the mill, separately, and the following is an account of my inquiries :—

1.—A.B., FEMALE, AGED 14 YEARS ; UNION BUILDINGS.

This girl said she was quite well in the early part of the day, Thursday, March 10th. She had her dinner at 12-55 p.m., which consisted of potato pie, bread and butter, and tea, all of which she brought from her own home, together with one-and-a-half cakes, which had been purchased from a small shop adjoining the mill. At 1-45 p.m., she began to be ill with headache and pains in the abdomen. At 2 p.m., she vomited on the floor of the factory room in which she was working. She then went out of the room, drank some water, and vomited this immediately also. She said the vomited matter had a yellowish appearance. There was no diarrhœa. She then went home to bed. She felt sick during the night, but did not vomit again. At the time of my examination her tongue was quite clean and she appeared to be well.

2.—A.B., FEMALE, AGED 16 YEARS ; RILEY STREET.

She was quite well when she went to her work on the morning of Thursday, March 10th. She had her dinner at 1-15

p.m., which consisted of beef-steak, bread and butter, and tea, which she had brought from her own home. In addition to this she ate one quarter of a cake, obtained from the above-named shop, which had been given to her by one of the other girls. At 3-15 p.m. she began to be ill with headache and pains in the abdomen. She felt sick, but did not vomit. She went home to bed. During the night she still felt sick, but did not vomit, and there was some diarrhœa. At the time of my examination her tongue was coated with a yellowish fur.

3.—R.B., FEMALE; UNION BUILDINGS.

Was perfectly well when she went to her work on the morning of Thursday, March 10th. She had her dinner at 12-45 p.m., which consisted of potato pie, bread and butter, and tea, which she brought from home, together with one-and-a-half cakes purchased from the shop named. At 2-30 p.m. she complained of headache, and was immediately sick in the mill. She noticed that the vomited matter was brown, and that it contained currants. She was sick in the mill two or three times and then went home to bed. She was constantly vomiting all through the night. There was also diarrhœa. At the time of my examination her tongue was coated with a yellowish fur.

4.—R.A., FEMALE; DOCK STREET.

Was well when she went to her work on the morning of Thursday, March 10th. She had her dinner at 12-30 p.m., which consisted of bread and butter, jam, and tea, which she took from her own home, together with half a cake, obtained from the same shop. At 3 o'clock she felt ill with headache, pains in the abdomen, and sickness. She also vomited once in the mill. After vomiting two or three times she went home and was in pain throughout the night. She also vomited twice on the morning of March 11th. There was no diarrhœa. Her tongue was coated.

5.—A.W., FEMALE ; STANLEY STREET.

Was quite well when she went to her work on the morning of Thursday, March 10th. She had her dinner at 1 p.m., which consisted of potato pie and half a cake, both of which she obtained from the shop named. At 3-30 p.m. she had headache, felt sick, and vomited several times. She then went home to bed, and was sick after she had got home. There was no diarrhœa. At the time of my examination her tongue was clean and the girl appeared to be well.

The above five cases were the only employees at the mill concerning whom I could obtain information that they had eaten cakes and had been ill.

I then obtained a list of the employees who had eaten cakes the day previously and who had been ill and who had not returned to their work on the morning of March 11th. These I visited as quickly as possible at their own homes.

6—M.B., FEMALE ; 20 YEARS ; DOCK STREET.

Was quite well when she went to the mill on the morning of March 10th. At 12-45 p.m., she had her dinner, which consisted of fried meat, bread, and tea, which she brought from her own home, together with one cake purchased at the shop. At 1-45 p.m. she complained of headache, feeling of sickness, and pains in the abdomen. She vomited immediately, and said that the vomited matter was brown in colour. She vomited several times at the mill, and then came home and went to bed at 4-30 p.m. She was in extreme pain until 2-30 o'clock on the morning of March 11th. She vomited once during the night, about midnight, but had not vomited since. This girl's tongue was coated with a yellowish fur, and she appeared to be somewhat prostrated, although she was dressed and sitting in a chair near the fire.

7.—M.B., FEMALE, 14 YEARS ; DOCK STREET.

This girl is a half-timer and had attended a public elementary school in the morning. At 12 o'clock she had her dinner at home, which consisted of fried meat, bread, and tea. She then went to her work at the mill and ate one cake about 12-45 p.m. At 1-30 p.m., she complained of a feeling of sickness and of pains in the abdomen. She vomited at once in the mill. Vomiting occurred several times, and she came home and went to bed. The girl was vomiting all night, and vomited at 10-45 a.m. this morning, March 11th.

8.—A.H., FEMALE, 19 YEARS ; DELF STREET.

Was quite well when she went to her work on Thursday morning, March 10th. She had her dinner at 12-30 p.m., which consisted of three rounds of bread and butter, a small piece of steak, and a fresh egg, which she had taken from home, together with half a cake, given to her by one of the other girls. At 2 o'clock she experienced a violent headache, pains in the abdomen, and was sick. The pains lasted all Thursday night and Friday morning. She was somewhat better in the afternoon. On arriving home on Thursday night she took a dose of Epsom salts and went to bed. I forwarded a sample of her urine to the Public Health Laboratory, at Manchester, to be examined.

9.—J.B., FEMALE, 19 YEARS ; CANNING STREET.

Was quite well when she went to the mill on the morning of March 10th. She had dinner at 12-45 p.m., which consisted of half-a-slice of bread and butter, and tea, which she had brought from her own home, together with one-and-a-half cakes. At 1-45 p.m., she complained of headache, feeling of sickness, and pains in the abdomen. She vomited on the floor of the mill several times and then came home and went to bed. There was no diarrhoea. She vomited once this morning, March 11th. This girl was in bed at home when I saw her, and there was still some pain and tenderness in the abdomen (epigastric region).

Her bowels had not been opened for two days. Her temperature was normal and pulse 110 per minute; fair volume and tension; and there was considerable prostration. I obtained a sample of her urine, which I forwarded to the Public Health Laboratory, at Manchester, for examination.

10.—W.M., MALE, 16 YEARS; OXFORD STREET.

Was quite well when he went to his work on the morning of March 10th. He had his dinner at 12-40 p.m., which consisted of bread and butter and tea, together with one-and-a-half cakes purchased from the shop. At 2 o'clock he complained of a feeling of sickness and of pains in the abdomen, which was followed by three or four attacks of vomiting. He said that the vomited matter was of a greenish colour. He then came home and went to bed, and was in great pain. His mother said that he was doubled up with pain all night. A medical man was called in, and at 5-30 p.m. he passed a stomach tube. There was a considerable amount of diarrhoea in this case. At the time of my visit the boy appeared to be quite well, but had vivid recollections of the extreme agony through which he had just passed.

After examining the above cases, I went to the shop from which the cakes had been purchased, since it appeared that these cakes were the only article of diet common to all the affected employees at their mid-day meal on Thursday, March 10th. The shop in Cobden Street was occupied by Mrs. E., whom I informed of the nature of my visit, and who was most willing to give me all the information which I desired and she could give. I found that the cakes had been made by Mrs. E., on the morning of March 10th, and that she had sold eleven to girls from the Imperial Mill. All the cakes were warm when she sold them. I examined closely the way in which Mrs. E. had made these cakes, including an inspection of the utensils

used and the materials employed. Everything appeared to be very clean. I ascertained that the cakes had been made from—

Flour.

Lard.

“ Overweight ” Butter (Margarine).

Currants.

Baking Powder, which consisted of carbonate of soda, cream of tartar, and powdered ammonia (vol).

Milk.

Mrs. E. purchased the flour on Monday, March 7th, but as a considerable amount of bread had also been made from the same flour and had not produced any ill effects, as far as I could ascertain, I thought that flour might be excluded as a possible cause of the outbreak.

The lard she had purchased during the week ending March 6th, but at the time of my visit all this had been used.

The “ overweight ” butter (Margarine) had been purchased at the same time as the lard.

The three powders from which the baking powder, used in making these cakes, had been prepared, were purchased two months previously.

I obtained three cakes which Mrs. E. had made on March 10th, together with samples of the flour, the “ overweight ” butter, the currants, carbonate of soda, cream of tartar, and powdered ammonia. These samples I took myself to the Public Health Laboratory the same day, namely, Friday, March 11th. I also brought away all the remaining cakes, the currants, and the baking powder, and compensated the owner for the same. I was unable to gain information or find on Mrs. E.'s premises any powder such as rat poison or vermin killer. Mrs. E. informed me that a male lodger living in her own house had eaten

five of the cakes; and she had eaten one; the husband one; a girl one, another boy two; and a neighbour also two. I visited all these people, but was unable to gain any history of illness in these cases. It appears, however, that Mrs. E., on Thursday, March 10th, had made these cakes in two ways, namely, some of these cakes contained all the above-named ingredients, and others all the above-named ingredients with the exception of powdered ammonia. Mrs. E. also stated that the last-named persons who consumed these cakes had them when they were quite cold.

I was unable to ascertain that the cakes had become contaminated at the Mill after they had been purchased.

All the affected employees recovered, and were back at their usual work in the Mill on Monday morning, March 14th.

On March 31st, 1910, I received the following report from Professor Delépine, of the Public Health Laboratory, at Manchester:—

Nature of Sample.	Result of Analysis.
L.B. 3775.	
L.B. 879.—Cakes of the same batch as those which were supposed to have produced symptoms of poisoning.	
A.—Containing currants with sugar on top.	Immaterial trace of Arsenic. No other poison.
L.B. 880.—B.—Containing no currants, and without sugar.	Ditto.
881.—Cake stated to have produced no symptoms.	
C.—Cake without currants or sugar on the top, but with currants inside.	Ditto.
882.—Overweight Margarine.	No poisonous substance found in the material; of normal composition.
883.—Cream of Tartar.	Not Cream of Tartar. Chiefly composed of Alumina.
	Analysis:—
	Alumina as Al_2O_3 , 62·4%
	Calcium as CaO , 5·5%

Nature of Sample.	Result of Analysis.
884.—Carbonate of Soda.	No poisonous product found. Ordinary Bicarbonate of Soda.
885.—Flour.	No poison found.
886.—Currants with Sugar.	No poison found.
887.—“ Vol.”	No poison found.
889.—Urine. A.H., Delf Street Blackburn.	Ammonium Carbonate and Carbonate. Trace of Arsenic.
890.—Urine. J.B., Canning St. Blackburn.	Ditto.

The symptoms suggested poisoning by Arsenic, but a very careful search for Arsenic revealed nothing more than minute traces not exceeding amounts found in the absence of poisoning. No other inorganic or organic poison could be discovered.

It will, therefore, be seen that the above-named employees were affected by certain symptoms, which made me very suspicious that these symptoms had been caused by an irritant poison, such as Arsenic.

The cakes, purchased at the little shop near the mill, were the only article of diet common to all the affected employees, and in some way it is very probable that these cakes had become contaminated, but on analysis no poison could be found.

Although it was stated that some cakes were eaten by inmates of the house where they were made, I failed to ascertain that there were any employees at the mill who had eaten these cakes and who were not taken ill.

It is satisfactory to note, however, that after I seized all the ingredients used for making the cakes, there were no further cases of sickness.

The small amount of Arsenic found in the two samples of urine may be accounted for by the fact that I could not obtain either sample until at least twenty-four hours after the cakes had been eaten, and during this time it is possible that the greater quantity of the Arsenic had been excreted.

TABLE XCIII.

Population and Death-rates of the various Sub-Districts and constituent Enumeration Districts (as extended in 1901) for the year 1910:—

NORTHERN.

Enumeration District.		Population at 1901 Census.	Death-rate for 1910.
No.	1	1,011	9.8
	2	1,020	4.9
	3	583	8.5
	4	1,322	9.0
	5	1,191	10.0
	6	872	13.7
	7	729	8.2
	8	1,131	9.7
	9	565	3.5
	10	869	8.0
	11	1,205	15.7
	12	1,148	16.5
	13	929	16.1
	14	1,166	18.8
	15	1,049	20.0
	16	1,227	9.7
	17	1,076	15.8
	18	741	18.8
	19	847	15.3
	20	1,011	11.8
	21	907	13.2
	22	1,152	12.1
	23	1,011	6.9
	24	967	8.2
	25	1,126	15.0
	26	1,146	10.4
	27	839	5.9
	28	1,414	18.3

Enumeration District.	Population at 1901 Census.	Death-rate for 1910.
29	995	22.1
30	1,133	26.4
31	1,227	15.4
32	1,098	20.0
33	620	9.6
34	873	6.8
35	1,051	16.1
36	859	12.8
37	936	6.4
38	1,177	18.6
39	908	11.0
40	1,223	14.7
41	1,055	6.6
42	793	13.8
43	474	16.8
44	1,019	14.7
45	1,240	11.2
46	859	26.7
47	1,024	11.7
48	1,278	18.7
49	1,592	21.9
50	946	14.7
51	946	16.9
52	1,306	8.4
53	1,436	23.6
54	1,322	28.7
55	1,098	26.4
56	1,191	20.1
57	1,343	10.4
58	1,283	13.2
59	1,009	13.8
60	1,004	6.9

SOUTHERN.

Enumeration District.	Population at 1901 Census.	Death-rate for 1910.
No. *1	636	64.4
2	584	49.6
3	631	9.5
4	1,028	7.7
5	743	16.1
6	597	5.0
7	399	20.0
8	755	14.5
9	557	19.7
10	816	17.1
11	1,137	16.7
12	1,213	14.8
13	870	18.3
14	1,072	13.9
15	720	31.9
16	799	21.2
17	1,454	13.0
18	1,215	13.9
19	1,317	8.3
20	611	29.4
21	1,438	19.4
22	1,016	10.8
23	1,346	14.8
24	1,294	13.9
25	2,369	11.8
26	775	9.0
†27	1,118	24.1

*The large Common Lodging-house in Larkhill-street is situated in this district, and has accommodation for about 314 lodgers. During the year 9 deaths occurred belonging to this Lodging-house, and this accounts for the high death-rate in this district.

†The Union Workhouse is situated in this district, and during the year 11 deaths occurred of persons whose address previous to admission could not be ascertained.

Enumeration District.	Population at 1901 Census.	Death-rate for 1910.
28	955	17.8
29	923	7.5
30	1,299	13.0
31	615	17.8
32	690	23.1
33	655	16.7
34	909	13.2
35	1,129	14.1
36	646	12.3
37	970	23.9
38	1,120	16.0
39	458	15.2
40	472	19.0
41	830	13.2
42	465	15.0
43	1,277	20.3
44	1,461	23.9
45	980	16.3
46	1,039	24.0
47	1,131	11.4
48	1,023	8.7
49	605	13.2

WITTON AND LIVESEY.

Enumeration District.	Population at 1901 Census.	Death-rate for 1910.
No. 1	1,240	15.3
2	1,197	11.6
3	1,076	20.4
4	953	23.0
5	1,043	11.5
6	958	9.3
7	1,036	20.2
8	1,190	10.0

Enumeration District.	Population at 1901 Census.	Death-rate for 1910.
9	1,115	14.3
10	1,301	7.6
11	820	9.7
12	827	22.9
13	891	23.5
14	892	3.3
15	989	19.2
16	932	10.7
17	735	12.2
18	1,056	13.2
Part of 19	144	27.7
„ 20	196	15.3
„ 24	194	5.1

Causes of Death in the County Borough of Blackburn during the Year 1910.

AGUE.

[illegible]

CAUSE OF DEATH.

AGES.

	o to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 60	60 to 65	65 to 75	75 to 85	85 and upwds	All Ages.		Total
															M	F	
60 Dentition	2														1	1	2
61 Rickets	1	2													2	1	3
62 Old Age, Senile Decay										1	4	60	48	18	55	76	131
63 Convulsions	26	4													18	12	30
64 Meningitis	10	5	4		4				1	1	1	1			17	10	27
65 Encephalitis						1									1		1
66 Apoplexy, Cerebral Hæmorrhage							2	13	11	12	33	4			32	43	75
67 Softening of Brain				1			1	2	3	2	3	1			6	7	13
68 Hemiplegia, Brain Paralysis							1	1	5	2	8	3			15	10	25
69 General Paralysis of Insane							3	2		2					5	2	7
70 Other Forms of Insanity								1							1		1
71 Chorea																1	1
72 Cerebral Tumour			1													1	1
73 Epilepsy	1				1	1	1	3							3	2	5
74 Laryngismus Stridulus						2									4	3	7
75 Locomotor Ataxy																	
76 Paraplegia, Diseases of Spinal Cord							1										
77 Other and ill-defined (Paralysis Agitans Diseases of Brain) Cerebral Abscess or Nervous System (Progressive Muscular Atrophy							1	1			2				1	1	1
78 Otitis, Otorrhœa									1							1	1
79 Diseases of Nose, Epistaxis																	
80 Diseases of Eye, Ophthalmia																1	1
81 Pericarditis																	
82 Endocarditis, Valvular Diseases of the Heart			1	3	2	7	7	14							28	44	72
83 Hypertrophy of Heart									7	10	13	2					
84 Angina Pectoris															1	2	3
85 Aneurism															1		1
86 Senile Gangrene															6	3	9
87 Embolism, Thrombosis						3	1	4		2	4	4			9	9	18
88 Phlebitis																	
89 Varicose Veins																	
90 Other and ill-defined (Fatty Degeneration Diseases of Heart) Cardiac Dilatation and Circulatory Atheroma							1	2	1	2	2	3			1	5	6
System { Heart Disease undefined	1	1	1	2		2	3	10	3	9	9				19	24	43

[illegible]

AGES

CAUSE OF DEATH.

CAUSE OF DEATH.															All Ages		Total
															M	F	
0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 60	60 to 65	65 to 75	75 to 85	85 and upwds				
121 Diseases of Testis and Penis	1	..	..	..	..	..	..	1	..	
122 Diseases of Ovaries	2	2	1	..	..	..	..	..	7	..	
123 Diseases of Uterus and Appendages	7	
124 Diseases of Vagina and External Genital Organs	
125 Diseases of Breast	
126 Abortion, Miscarriage..	2	..	..	..	..	..	..	..	..	..	2	2	
127 Puerperal Mania	5	
128 Puerperal Convulsions..	3	..	..	..	..	..	..	..	..	..	4	4	
129 Placenta Prævia, Flooding	2	3	..	1	..	..	..	..	..	..	..	..	..
130 Puerperal Thrombosis..	3	..	..	..	..	..	..	..	..	..	..	..
131 Other and ill-defined Accidents and Diseases of Pregnancy and Child Birth..	2	..	..	..	..	..	..	..	..	2	2	
132 Arthritis, Ostitis, Periostitis	1	..	..	..	..	..	..	..	..	..	1	1	
133 Other and ill-defined Diseases of Osseous System	
134 Ulcer, Bed sore	
135 Eczema	1	1	..	..	..	..	..	..	..	..	..	..	..	..	2	2
136 Pemphigus	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
137 Other and ill-defined Diseases of Integumentary System }	
DEATHS FROM EXTERNAL CAUSES : By Accident or Negligence.																	
138 In Quarry	1	..	2	..	..	1	..	..	1	..	1	
139 Vehicular Traffic	1	1	..	3	1	4	
140 On Railways	1	..	..	..	..	..	..	1	..	1	
142 Building Operations	1	..	3	..	..	..	..	..	..	4	..	..
145 Burns and Scalds..	1	..	..	..	..	..	..	..
146 Poisons, Poisonous Vapours	1	6	2	2	..	..	..	..	..	..	..	..	..	2	10	12
150 Drowning	1	..	1	..	..	..	..	..	..	1	..	..	1	1	1	
151 Suffocation, Overlaid in Bed..	2	..	..	..	..	..	..	..	..	..	..	..	3	1	4	
152 Suffocation, otherwise..	1	..	..	..	..	..	..	2	..	2	
153 Falls, not specified	2	1	1	1	2	1	1	..	4	1	8	

[illegible]



SHEWING WEIGHTS OF CHILDREN FED AT MARY ANN STREET.

NOTE.—Some of the above children are still being taken to the Restaurant.

APPENDIX C.

[illegible]

LOCAL GOVERNMENT BOARD.

TABLE I.—Vital Statistics of Whole District during 1910 and Previous Years.

Name of District: BLACKBURN.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.			Deaths of Non-Residents registered in Public Institutions in the District.		Deaths of Residents registered in Public Institutions beyond the District.		NET DEATHS AT ALL AGES BELONGING TO THE DISTRICT.	
		Number.	Rate.*	Under 1 Year of Age.		At all Ages	Public Institutions in the District.	Non-Residents registered in Public Institutions in the District.	Residents registered in Public Institutions beyond the District.	Number.	Rate.*	
				Number.	Rate per 1,000 Births registered.	Number.						
1	2	3	4	5	6	7	8	9	10	11	12	13
1900	126951	3438	27.0	762	221.6	2897	22.8	365	96	19	2820	22.2
1901	127823	3386	26.5	654	193.7	2578	20.1	338	101	18	2495	19.5
1902	130239	3357	25.7	530	157.8	2330	17.8	414	117	34	2247	17.2
1903	131079	3304	25.2	523	158.2	2147	16.3	336	105	27	2069	15.7
1904	131908	3100	23.5	595	191.9	2353	17.8	353	106	27	2274	17.2
1905	132742	3193	24.0	467	146.2	2231	16.8	383	85	37	2183	16.4
1906	133583	3418	25.5	533	155.9	2263	16.9	415	107	37	2193	16.4
1907	134438	3348	24.9	508	151.7	2352	17.4	383	104	45	2293	17.0
1908	135278	3415	25.2	510	149.3	2236	16.5	413	120	41	2157	15.9
1909	136135	3139	23.0	400	127.4	2333	17.1	502	127	28	2234	16.4
Averages for years 1900-1909.	132017	3309	25.0	548	165.3	2372	17.9	390	106	31	2296	17.3
1910	136996	2948	21.5	401	136.0	2075	15.1	448	159	33	1949	14.2

* Rates in Columns 4 and 8 should be calculated per 1,000 of the estimated gross population. In districts in which large public institutions seriously affect the statistics, the rates in Column 13 may be calculated on a nett population, obtained by deducting from the estimated gross population the average number of inmates not belonging to the district in such institutions.

NOTE.—The deaths to be included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

The "Public institutions" to be taken into account for the purposes of these tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses, and lunatic asylums. A list of the institutions in respect of the deaths in which corrections have been made should be given on the back of this table.

Area of District in Acres (exclusive of area covered by water)	At Census 1901	6978	Total population at all ages	127 626	At Census of 1901.
Added	453		Number of inhabited houses	27,429	
			Average number of persons per house	4.6	
Total..	7431		In November, 1901, an addition was made to the Borough, viz.—Total persons	1,590	

I. Institutions within the district receiving sick and infirm persons from outside the district.	II. Institutions outside the district receiving sick and infirm persons from the district.	III. Other Institutions, the deaths in which have been distributed among the several localities in the district.
Union Workhouse. Blackburn and East Lancashire Infirmary. Blackburn Infectious Diseases Hospital. Private Nursing Home, West Park Road.	Lancaster Asylum. Whittingham Asylum. Prestwich Asylum. Winwick Asylum. Small Pox Hospital, Finnington.	Private Nursing Homes, Manchester. Culcleth Hall, Manchester. Infirmary, Burnley. Private Residence, Darwen. Private Residence, Blackpool. Private Residence, Clitheroe.

Is the Union Workhouse within the District?.....Yes.

TABLE II.—Vital Statistics of Separate Localities in 1910 and previous years.

NAMES OF LOCALITIES.	1. ST. STEPHEN'S.				2. TRINITY.				3. ST. MICHAEL'S.				4. ST. JOHN'S.				5. ST. SILAS'.				6. ST. PAUL'S.				7. ST. PETER'S.			
	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.
YEAR.	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d
1900	8877	250	178	57	10313	296	247	64	8367	233	164	42	8184	196	174	56	8332	158	118	17	10210	328	249	69	8270	194	266	48
1901	9001	275	162	40	10316	279	229	67	8510	243	135	27	8161	211	150	35	8581	153	133	24	10208	283	207	51	8175	189	203	45
1902	9118	232	150	39	10327	272	176	39	8650	223	139	34	8137	221	121	27	8927	157	98	11	10201	288	176	44	8082	169	181	31
1903	9243	218	126	27	10339	252	161	49	8806	205	118	20	8114	209	142	37	9198	187	107	23	10194	272	155	44	7986	176	138	32
1904	9359	209	148	37	10344	265	195	51	8953	219	116	29	8091	201	125	32	9452	147	134	19	10188	266	201	67	7894	165	161	38
1905	9475	237	160	37	10352	235	162	43	9098	224	141	31	8068	170	110	24	9716	159	113	12	10181	260	189	40	7802	183	178	24
1906	9587	267	159	42	10359	295	207	50	9293	248	132	33	8045	192	116	27	9971	185	91	18	10174	266	173	34	7712	195	180	45
1907	9708	268	151	34	10368	277	178	44	9377	215	131	28	8021	191	140	29	10252	148	129	16	10168	292	180	41	7622	189	189	40
1908	9826	283	173	39	10377	281	174	43	9486	208	137	25	7998	200	105	31	10533	146	112	11	10161	259	167	38	7533	191	191	46
1909	9948	255	145	26	10390	261	163	45	9600	205	121	21	7977	151	128	19	10825	164	122	14	10154	248	183	34	7443	176	168	25
Average of Years 1900 to 1909	9414	249	155	37	10348	271	189	49	9014	222	133	29	8079	194	131	31	9578	160	115	16	10183	286	188	46	7851	182	185	37
1910	10047	265	145	27	10400	235	179	45	9776	197	109	20	7952	173	96	20	11125	135	79	5	10146	222	168	30	7360	158	132	28

NOTES —(a) The separate localities adopted for this table should be areas of which the populations are obtainable from the census returns, such as wards, parishes or groups of parishes, or registration sub-districts. Block 1 may, if desired, be used for the whole district: and blocks, 2, 3, &c., for the several localities. In small districts without recognised divisions of known population this Table need not be filled up.

(b) Deaths of residents occurring in public institutions beyond the district are to be included in sub-columns *c* of this table, and those of non-residents registered in public institutions in the district excluded. (See note on Table I. as to meaning of terms "resident" and "non-resident.")

(c) Deaths of residents occurring in public institutions, whether within or without the district, are to be allotted to the respective localities according to the addresses of the deceased.

(d) Care should be taken that the gross totals of the several columns in this Table respectively equal the corresponding totals for the whole districts in Tables I. and IV.: thus, the totals of sub-columns *a*, *b*, and *c* should agree with the figures for the year in the columns 2, 3, and 12, respectively, of Table I.: the gross total of the sub-columns *c* should agree with the total of column 2 in Table IV., and the gross total of sub-columns *d* with the total of column 3 in Table IV.

TABLE II. (continued). — Vital Statistics of separate Localities in 1910 and previous years.

NAMES OF LOCALITIES.	8. ST. MARY'S.				9. ST. MATTHEW'S.				10. ST. THOMAS'.				11. PARK.				12. ST. LUKE'S.				13. ST. MARK'S.				14. ST. ANDREW'S.			
YEAR.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>
1900	6971	164	226	47	10413	328	233	72	12136	290	223	71	9062	254	188	39	8810	287	236	80	8066	192	168	45	8940	168	190	55
1901	6952	148	190	57	10393	287	217	71	12340	306	202	58	9111	242	167	36	8811	277	210	64	8153	223	136	35	9106	270	154	46
1902	6934	173	156	24	10333	310	186	45	12572	332	210	65	9156	239	161	40	8811	249	189	45	8694	238	146	41	10019	254	158	45
1903	6912	157	146	36	10274	309	193	53	12742	318	183	42	9204	240	172	41	8812	265	155	44	9059	254	130	38	10196	242	143	37
1904	6893	136	150	31	10214	276	201	54	12938	293	216	63	9246	226	154	37	8813	237	154	45	9152	226	148	44	10371	234	171	48
1905	6874	159	153	28	10155	275	183	36	13129	303	180	40	9293	248	152	39	8814	261	168	54	9242	223	143	27	10543	256	151	32
1906	6854	163	167	42	10107	307	178	41	13331	287	172	39	9338	263	174	39	8814	236	164	53	9334	262	157	49	10718	252	123	21
1907	6834	164	154	43	10039	290	193	42	13544	295	211	37	9382	252	146	37	8815	244	175	50	9420	248	156	36	10888	275	160	31
1908	6815	189	169	35	9987	286	158	41	13757	314	165	40	9431	277	164	47	8816	257	159	38	9500	266	131	33	11058	258	152	43
1909	6792	163	191	28	9923	263	151	30	13974	315	201	36	9479	242	170	34	8816	227	160	29	9583	211	141	24	11231	258	190	35
Averages of Years 1900 to 1909	6883	161	170	37	10183	293	189	48	13046	305	196	49	9270	248	164	38	8813	254	177	50	9020	234	145	37	10307	246	159	39
1910	6777	146	142	33	9867	234	172	33	14133	278	166	36	9529	240	144	32	8817	208	151	36	9674	208	124	21	11393	249	142	35

TABLE IV.—Causes of, and Ages at, Death during the Year, 1910.

CAUSES OF DEATH.	Deaths at the subjoined ages of "Residents," whether occurring in or beyond the District.								Deaths at all ages of "Residents" belonging to Localities, whether occurring in or beyond the District.												Total Deaths whether of "Residents" or non-Residents in the District.	
	All ages	Under 1 year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and upwards	Stephen's	Trinity	Michael's	John's	Silas	Paul's	Peter's	Mary's	Matthew's	Thomas	Park	Luke's	Mark's		Andrew's
I	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Small-pox ...	1	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Measles ...	39	9	28	2	...	...	...	6	4	3	1	...	2	3	6	7	3	2	1	...	1	3
Scarlet fever ..	27	1	18	8	...	...	...	2	2	3	...	5	1	1	...	2	2	...	...	6	3	18
Whooping-cough ..	15	6	9	...	...	...	...	2	2	2	...	...	1	1	1	4	1	...	...	...	1	1
Diphtheria & membranous croup ...	22	...	12	9	...	1	...	1	1	...	...	...	3	1	1	2	1	...	3	3	6	8
Croup ...	10	1	8	1	...	...	...	...	2	...	...	...	1	...	...	2	...	...	4	1	...	...
Fever { Typhus Enteric Other	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	9	...	...	2	3	4	...	...	...	1	...	1	2	...	...	4	...	...	1	...	...	9
Continued	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic Influenza	28	1	2	2	3	16	4	1	...	1	...	2	3	...	...	2	1	4	4	4	6	2
Cholera ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhoea (see notes at back) ...	79	58	16	...	...	...	5	6	9	1	4	...	5	13	3	6	9	4	5	4	10	...
Enteritis (see notes at back) ...	5	2	...	...	...	3	...	1	...	...	1	...	...	...	...	2	1	...	...	...	...	...
Gastritis (see notes at back).....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever(see notes at back)...	8	...	...	...	1	7	...	...	...	1	...	1	...	1	2	1	...	2	...	...	...	3
Erysipelas ...	3	1	...	...	...	2	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	...
Phthisis (Pulmonary Tuberculosis) ...	110	...	4	4	24	78	...	4	10	6	8	6	7	13	12	9	8	7	6	8	6	28
Other Tuberculous Diseases ...	56	19	9	12	4	12	...	5	10	4	5	1	4	2	3	5	2	9	4	...	2	8
Cancer, Malignant Disease (see notes at back)	127	...	...	...	1	87	39	7	8	7	8	5	12	9	4	10	15	12	9	9	12	24
Bronchitis ...	202	42	15	...	2	66	77	18	28	13	7	3	23	15	19	10	19	11	12	14	10	32
Pneumonia ..	147	40	23	5	5	54	20	11	8	6	8	5	8	4	11	15	20	15	13	9	14	16
Pleurisy ...	12	1	2	1	2	4	2	3	1	2	...	...	1	...	1	1	...	2	...	1	...	3
Other Diseases of Respiratory Organs ...	3	...	...	...	...	3	...	...	1	...	...	...	...	...	...	1	...	...	...	...	1	...
Alcoholism } Cirrhosis of Liver }	13	...	...	...	...	10	3	1	...	2	...	1	1	...	1	1	4	...	1	...	1	6
Venereal Diseases	3	2	...	...	...	1	...	1	...	...	...	...	...	...	...	...	1	...	...	1	...	1
Premature Birth ..	63	63	...	...	...	...	...	4	10	5	3	...	3	3	4	4	3	6	5	5	8	...
Diseases and Accidents of Parturition	13	...	...	...	2	11	...	...	2	1	...	2	2	...	...	1	1	1	...	1	2	3
Heart Diseases ...	160	1	1	7	9	91	51	12	15	9	11	11	14	8	10	15	9	13	11	13	9	23
Accidents ...	38	3	7	6	1	16	5	2	2	1	1	2	4	4	2	3	3	3	5	3	3	22
Suicides ...	17	...	...	...	...	14	3	1	3	...	1	...	1	2	...	3	...	2	2	...	2	4
All other Causes ...	739	151	39	29	30	239	251	57	61	41	38	34	69	52	62	61	62	51	65	42	44	234
All causes ...	1949	401	193	88	87	720	460	145	179	109	96	79	168	132	142	172	166	144	151	124	142	448

TABLE V.—INFANTILE MORTALITY DURING THE YEAR 1910.

DEATHS FROM STATED CAUSES IN WEEKS AND MONTHS UNDER ONE YEAR OF AGE.

CAUSE OF DEATH.		Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total under 1 Month	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total Deaths under One Year.
ALL CAUSES.	{ Certified ...	84	16	16	9	125	36	32	25	27	22	27	20	12	24	24	14	388
	{ Uncertified ...	9	1	...	1	11	...	1	...	...	...	1	...	...	...	...	...	13
Common Infectious Diseases.	{ Small-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	{ Chicken-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	{ Measles ...	...	...	...	...	...	...	1	...	...	...	1	1	2	1	3	...	9
	{ Scarlet Fever... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
	{ Diphtheria, including Membranous Croup ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhoeal Diseases (See Notes to Table IV.)	{ Whooping Cough ...	...	...	...	...	...	...	1	1	...	1	...	1	...	1	1	...	6
	{ Diarrhoea, all forms ...	...	...	...	...	...	3	4	3	6	3	3	2	2	3	3	3	35
	{ Enteritis { Muco-Enteritis and Gastro-Enteritis	...	...	...	1	1	2	3	3	3	1	1	1	2	3	1	4	25
	{ Gastritis, Gastro-intestinal Catarrh..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wasting Diseases.	{ Premature Birth	45	5	5	2	57	3	2	1	...	...	...	...	...	...	...	...	63
	{ Congenital Defects (See Notes to Table IV.)	8	3	...	...	11	2	...	1	...	1	...	1	...	2	...	...	18
	{ Injury at Birth	3	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	3
	{ Want of Breast-milk, Starvation ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculous Diseases.	{ Atrophy, Debility, Marasmus ...	8	2	2	1	13	5	3	6	4	3	3	...	1	2	4	...	44
	{ Tuberculous Meningitis (See Notes to Table IV.)	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	3
	{ Tuberculous Peritonitis: Tuberculosis Mesenterica	...	...	...	...	...	1	3	1	3	1	2	1	...	2	...	...	14
	{ Other Tuberculous Diseases (See Notes to Table IV.)	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	2
Other Causes.	{ Erysipelas ... ..	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
	{ Syphilis ... ..	...	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	2
	{ Rickets ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
	{ Meningitis (not Tuberculous)	...	...	...	...	...	...	...	1	...	2	2	2	1	...	1	1	10
Other Causes.	{ Convulsions	7	1	5	2	15	2	3	1	2	2	1	...	...	...	...	...	26
	{ Bronchitis ... ..	...	...	1	1	2	6	6	2	2	4	5	5	1	3	6	...	42
	{ Laryngitis ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	{ Pneumonia ... ..	...	...	2	...	2	4	2	...	4	2	8	5	3	3	2	5	40
Other Causes.	{ Suffocation, overlaying ...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	2
	{ Other Causes	22	6	1	3	32	3	4	5	3	1	2	1	...	1	2	...	54
		93	17	16	10	136	36	33	25	27	22	28	20	12	24	24	14	401

District (or sub-division) of Blackburn.

Population, estimated to middle of 1910 - 136,996.

Births in the year } legitimate - - 2819
 } illegitimate - - 129

Deaths in the year of { legitimate infants - 370
 } illegitimate infants - 31

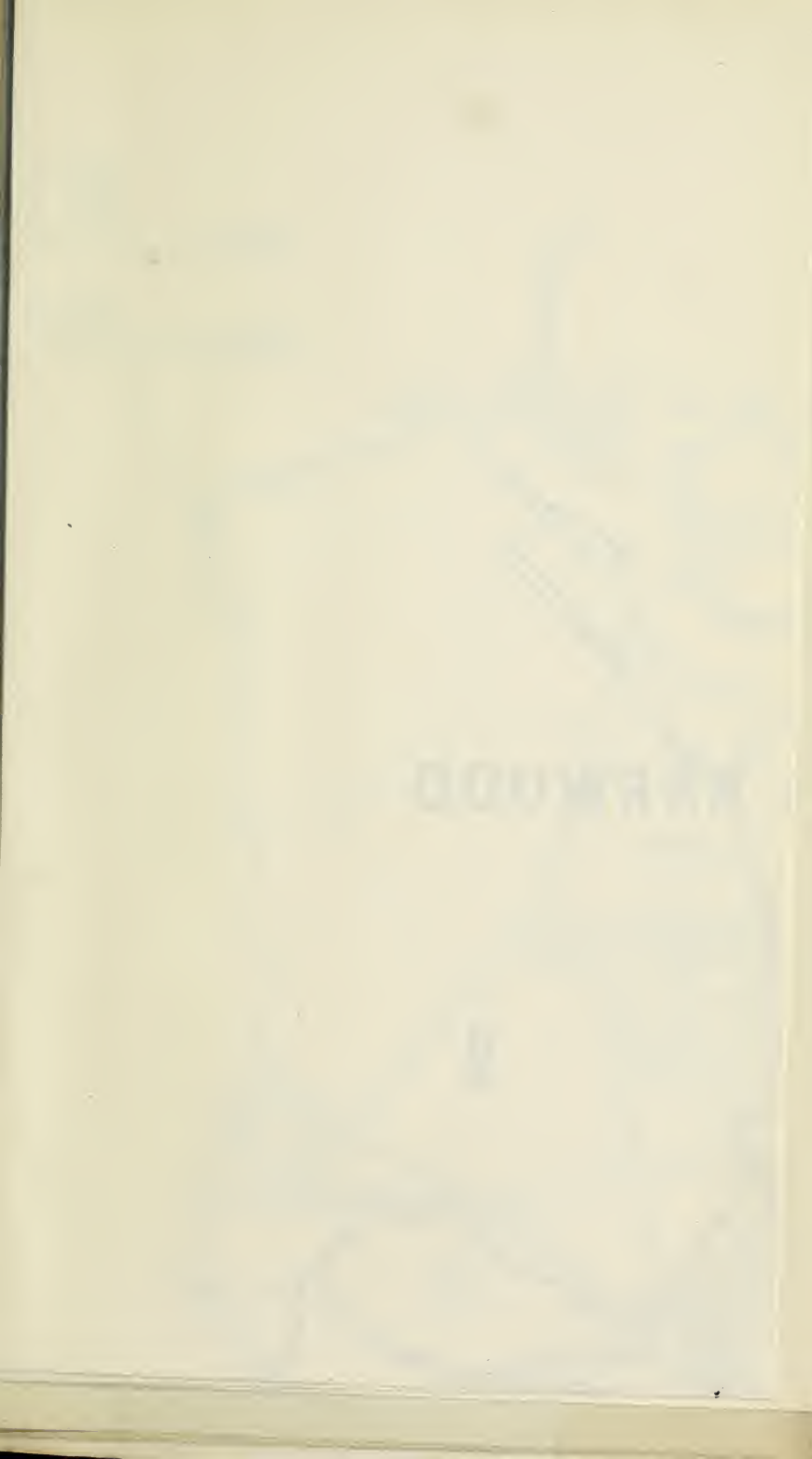
Deaths from all Causes at all Ages - 1949

NOTES TO TABLES IV. AND V.

- (A) In Table IV., all deaths of "Residents" occurring in public institutions, whether within or without the district, are to be INCLUDED with the other deaths in the columns for the several age groups (columns 2-8). They are also, in columns 9-15, to be INCLUDED among the deaths in their respective "Localities" according to the previous addresses of the deceased as given by the Registrars. Deaths of "Non-residents" occurring in public institutions in the district are in like manner to be EXCLUDED from columns 2-8 and 9-15 of Table IV.
 - (B) See notes on Table I. as to the meaning of "Residents" and "Non-residents," and as to the "Public Institutions" to be taken into account for the purposes of these Tables. The "Localities" in Table IV. should be the same as those in Tables II. and III.
 - (C) All deaths occurring in public institutions situated within the district, whether of "Residents" or of "Non-residents," are, in addition to being dealt with as in note (A), to be entered in the last column of Table IV. The total number in this column should equal the figures for the year in column 9, Table I.
 - (D) The total deaths in the several "Localities" in columns 9-15 of Table IV. should equal those for the year in the same localities in Table II., sub-columns c. The total deaths at all ages in column 2 of table IV. should equal the gross total of columns 9-15, and the figures for the year in column 12 of Table I.
 - (E) Under the heading of "Diarrhoea" are to be included deaths registered as due to Epidemic diarrhoea, Epidemic enteritis, Infective enteritis, Zymotic enteritis, Summer diarrhoea, Dysentery and Dysenteric diarrhoea, Choleraic diarrhoea, Cholera (other than Asiatic or Epidemic) and Cholera Nostras. Deaths from diarrhoea secondary to some other well-defined disease should be included under the latter.
- Deaths from Enteritis, Muco-Enteritis, Gastro-Enteritis, and Gastritis (see under the heading Diarrhoeal Diseases in Table V.) in Tables IV. and V. should be placed immediately below, but separately from, those enumerated under the heading Diarrhoea as defined by enumeration above. This is particularly important for deaths under one year of age, as many of the deaths in infancy returned as due to Enteritis are really caused by Epidemic Diarrhoea. In the course of years, by the adoption of this recommendation, it will be practicable to ascertain the probable amount of transfer between these different headings.
- (F) Under the headings of "Cancer" and "Puerperal fever" should be included all registered deaths from causes comprised within these general terms. Thus: Under "Cancer" should be included deaths from Cancer, Carcinoma, Malignant disease, Scirrhus, Epithelioma, Sarcoma, Villous tumour, and Papilloma of bladder, Rodent ulcer. Under "Puerperal Fever" are to be included deaths from Pyæmia, Septicæmia, Sæptæmia, Pelvic peritonitis, Peri- and Endo-Metritis occurring in the Puerperium.
 - (G) Under "Congenital Defects" in Table V. are to be included deaths from Atelectasis, Icterus neonatorum, Navel hæmorrhage, Malformations and Congenital hydrocephalus.
 - (H) Under "Tuberculous Meningitis" are to be included deaths from Acute hydrocephalus.
 - (I) Under "Other Tuberculous Diseases" are to be included deaths from Tuberculosis, Tuberculosis of bones, joints and other organs, Lupus and Scrofula.
 - (J) All deaths certified by registered Medical Practitioners and all Inquest cases are to be classed as "Certified"; all other deaths to be regarded as "Uncertified."
- In recording the facts under the various headings of Tables I., II., III., IV. and V., attention has been given to the notes on the Tables.



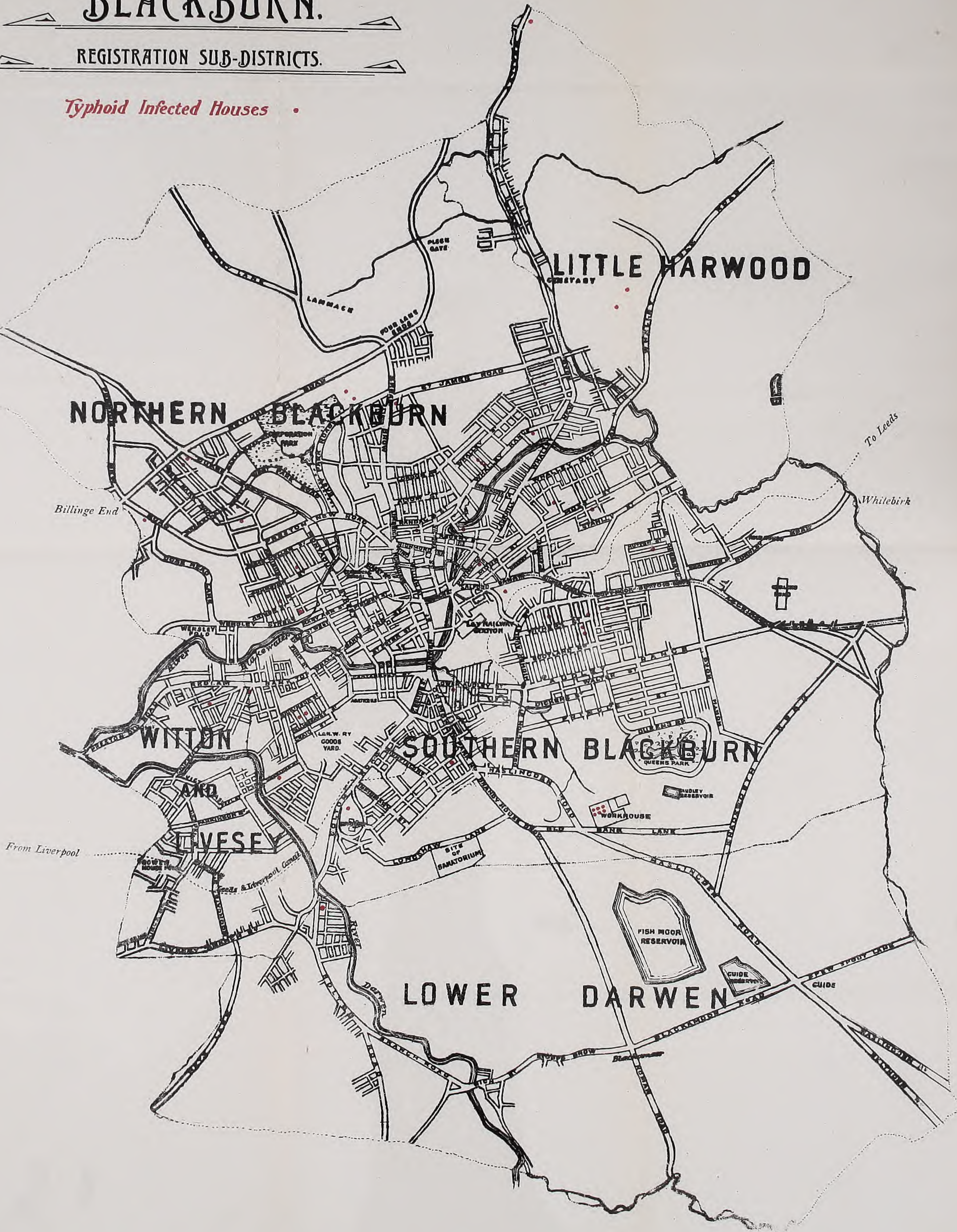




BLACKBURN.

REGISTRATION SUB-DISTRICTS.

Typhoid Infected Houses •



COUNTY BOROUGH OF BLACKBURN

Death Rates in Enumeration Districts.



